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November 23, 2007 Volume 29 Number 47 www.processor.com



# Centralized Systems Management

# ATEN's Products Can Save Your Weekend

by Mark Brownstein

It's 2:45 SUNDAY MORNING, and your phone rings. A failure occurred during an automated file transfer to a remote server 300 miles away. You grab a cup of coffee and very briefly contemplate how to deal with this situation.

Do you take a five-hour drive? Is your local system making an erroneous report? Is this a disaster or merely an inconvenience? Do you have to update your resume?

Fortunately, you know how to assess the situation.

#### ATEN Products At Work

You go to your home computer, go through your company's VPN, and log on to the corporate network. You connect to an Altusen KVM Over the Net system, developed by ATEN, located at your remote site. The browser integrated into the KVM system allows you to take control of the servers and clients attached to it. Checking the status of the devices connected to the server, you quickly isolate the



problem—although it's three o'clock in the morning and you're not asleep, one of your servers is.

Attempts to reset the machine using key commands fail; you can't warm boot; and the frozen server will have to be powered down and restarted. Rather than make the 10-hour round trip to flick a power switch, you take advantage of ATEN's Power Over the Net capabilities to select the

server, power it down, and monitor the start-up sequence.

Once the remote system is up and running, you can check to see the status of the file transfers. You can go to your local servers (20 miles from home) through your VPN connection, check the status of the transfers, restart them if necessary, and be back in bed before the sun comes up.

Go to Page 12

# Are You Ready For VoIP?

# **SMEs Are Ramping Up For The Big Move**

by Chris A. MacKinnon

IF ONLY VOICE OVER IP SYSTEMS were easy to snap into the small to midsized enterprise. While we may not be far away from the perfect VoIP world, the technology is getting closer, as SMEs move toward replacing existing PBX systems or mixing both systems together. So how do you break your SME into the VoIP side of enterprise communications? How do you know your network is ready for VoIP? And what questions should you ask before implementing VoIP?

Chad Agate, co-founder and CEO of NeoPhonetics (www.neophonetics.com), says SMEs are moving toward VoIP systems for good reason. He says SMEs are interested in VoIP for two reasons. First, SMEs understand the total cost of management savings associated with migrating to VoIP systems. Second, SMEs can uniquely

benefit from the productivity gains associated with unified communications.

Agate says, "Unfortunately, smaller businesses that want to achieve both significant savings and advanced unified communications have limited options in the market today because incremental licensing fees associated with additional users and additional features can make complete IP PBX systems more expensive than anticipated." He says the combination of wanting to maximize cost savings and achieve better unified communications is leading some SMEs to open-source IP PBX solutions.

Michael Kirchhoff, senior convergence engineer at Alliant DataTel in Atlanta (www.goalliant.net), says medium-sized Go to Page 12

The combination of wanting to maximize cost savings and achieve better unified communications is leading some SMEs to open-source IP PBX solutions.

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#### **Server OS Security Best Practices** | 25

Properly securing your server operating system doesn't stop or start at the server; rather, it requires a holistic approach that encompasses your IT infrastructure and your small to midsized enterprise's business drivers.

#### Improve Cooling Efficiency | 26

SMEs must invest in proper cooling systems to prevent thermal issues from destroying equipment and data. There are several steps and technologies SMEs can use to prevent data center thermal issues from getting out of control.

#### **Product Releases** | 16

■ Fujifilm announced the Fujifilm Tape Tracker, a high-performance data asset management solution that improves the security and shipping of data tape media. ■ HP released updated versions of its Integrity and Integrity NonStop servers that now support Intel Itanium 9100 processors. ■ Jatheon **Technologies** is targeting companies that have 100 or fewer employees with its latest email archival appliance. 

Lancope announced Stealth-Watch System 5.7 to provide IT administrators with behavior-based anomaly detection and network performance monitoring. 

Moonwalk announced the Moonwalk 6.0 Universal FAN for the management and migration of files across a company's storage network. ■ Panduit's new 4 Post Rack System has a floor footprint within 24 x 24 inches. ■ Perle Systems launched IOLAN I/O Device Server, which allows IT managers to monitor envi-

#### **EACH WEEK**

tact closures, and equipment failure.

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288vs	2	8	8	8	\$1,495
400 series					
488vs	4	8	8	8	\$1,895
800 series					
840vs	8	4	12	0	\$1,495
844vs	8	4	12	4	\$1,795
848vs	8	4	12	8	\$1,895

TALKSWITCH'S new lineup of hybrid IP PBXes mean customers have even greater flexibility in designing the ideal phone system for their business.

New systems are available across each TalkSwitch series and, when combined with TalkSwitch's current lineup, provide a combination of lines, extensions, and other options for companies of nearly any size. And all TalkSwitch systems can be upgraded and networked together to a maximum of four TalkSwitch units with capacity for 32 incoming phone lines, 64 local extensions, and 32 VoIP trunks per office location.

TalkSwitch IP PBXes feature:

**Easy setup.** TalkSwitch installation is fast and easy, so you save time and money, regardless of whether you chose to install the system yourself or call a professional. Plus, it's simple to change settings, so you don't pay a technician every time you add or move an employee.

**Phone freedom.** TalkSwitch phones are tailor-made for the system. But unlike most phone systems, TalkSwitch doesn't tie you down to proprietary telephones. TalkSwitch works with any standard analog phone and selected IP phones.

NOVEMBER 16, 2007

External IP and remote extensions keep you connected. With TalkSwitch systems, any phone, anywhere, can be a remote extension. This includes cell phones, home phones, and phones in other offices. Calls can be seamlessly transferred

and screened. Or plug a TalkSwitch IP phone in anywhere as an external IP extension for complete extension functionality.

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NETWORKING & VPN

#### November 16, 2007

# Citrix Unveils On-Demand Provisioning Server

Platform Enables Monitoring & Management Of Virtual Environments

VIRTUALIZATION has expanded rapidly throughout data centers, providing businesses with a tool for consolidation and optimization. The technology is also upping the ante on management. Citrix Systems has introduced its Provisioning Server, intended to reduce that complexity by providing ondemand provisioning of virtual and physical machines from a central location.

"Monitoring and managing these virtual environments is not as easy as it might appear," says Bala Murugan Vaidhinathan, chief architect for Citrix. "You might reduce the number of pieces of hardware from 20 to one, but within the virtual environment, on that single piece of hardware, there are now 20 operating systems running. You've potentially put all your eggs in one hardware basket, and it needs to perform."

The Provisioning Server is based on the OS-streaming technology developed by Ardence, which was acquired by Citrix in January. The system allows for a more agile and cost-effective delivery of applications

and desktops and is expected to be used to complement technology from the recently announced Citrix acquisition of virtual infrastructure specialist XenSource.

"A lot of businesses have tried virtualization to some degree for a certain application, and often it may not have panned out as planned. They find they're not getting enough performance, and they just go back to single server mode," Vaidhinathan says. "There is not enough time and persistence to fix the problems."

Many of the mechanics of managing virtualized environments are similar to central management of sets of thin-client terminals, he says, a technology with which Citrix has a long history. The platform itself has been in development for about six years.

"We are very effective in understanding the mechanics of virtual environments," Vaidhinathan says. "In Citrix (terminal) platform you have one single OS being shared by 20 different users. Within today's virtual environments, you've got one piece of hardware being shared by 20 different operating systems."





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#### **NEWS**



#### IBM To Buy Cognos

IN FEBRUARY 2006, IBM introduced its "information on demand" strategy, and now it has purchased its 23rd company in line with that plan. In a deal worth about \$5 billion in cash, IBM will purchase Cognos, a vendor of business intelligence software. With the acquisition, IBM will be expanding into the BI applications market and integrating Cognos into its Information Management Software division. The purchase may strike a chord with IBM's rival HP, who uses products from Cognos for one of its products, a business intelligence and data warehousing platform. Pending regulatory approval, the deal is slated to close in the first quarter of next year.

#### DOJ Says No MS **Antitrust Extension Needed**

THE DOJ (DEPARTMENT OF JUSTICE) has issued a brief telling U.S. District Court Judge Colleen Kollar-Kotelly an extension of the 2002 antitrust settlement between the DOJ and Microsoft did not need to be renewed. A group of 17 states and the District of Columbia filed a petition earlier asking Kollar-Kotelly to extend the oversight until 2012, saying, among other things, that Microsoft could potentially use its Internet Explorer dominance to block Web 2.0 rivals. In its brief, the DOJ contends the states haven't made a case for extending the settlement decree, adding that the states have not shown that Microsoft's conduct has blocked the OEM channel to third-party browsers.

#### Dell Acquires ASAP Software

FOR A PRICE of about \$340 million, Dell has completed its acquisition of software solutions and licensing services provider ASAP Software. With the deal, Dell is planning to integrate ASAP's knowledge in areas such as compliance, purchasing, and software licensing management into its own software business. The purchase is part of Dell's longrange plan to remove complexity and cost for its customers as it attempts to simplify IT. Dell also recently bought SilverBack Technologies, a service delivery platform provider, and announced plans to buy iSCSI SAN solutions provider EqualLogic.

#### Cisco Sees Weak Enterprise Market

IN A CONFERENCE CALL announcing the company's latest quarterly results, Cisco CEO John Chambers said sales to United States enterprises would remain "lumpy" for a while. "The U.S. enterprise, probably as a surprise to no one, is experiencing some softness," he said. Decreases in orders from large financial institutions and automotive and retail segments impacted Cisco the most, according to Chambers. Cisco's profits and revenues both showed double-digit growth during the first fiscal quarter. Revenue was \$9.6 billion, up about 17% compared to a year ago; net income was \$2.2 billion, up 37% from a year ago. Earnings per share amounted to 35 cents.

#### Adobe CEO To Leave

BRUCE CHIZEN, who has served as CEO at Adobe for seven years and is on the company's board of directors, will step down at the end of this month. Chizen will be replaced on Dec. 1 by Shantanu Narayen, who currently serves as Adobe's president and COO. Chizen joined Adobe in 1994; he will continue to serve on Adobe's board of directors until his term expires next spring and will work with Adobe in "a strategic advisory capacity" until the end of the company's fiscal 2008 year.

#### IBM Announces **Computer Security Initiative**

IBM IS MAKING A MAJOR PUSH in identifying and managing security risks. As part of its efforts, the company will spend \$1.5 billion next year on computer security product development and marketing. Tom Noonan, general manager of IBM's ISS (Internet Security Systems), says, "For many enterprises, security is broken. . . . Installing point solutions to 'keep the bad guys out' is no longer a viable way to secure a business." IBM has made several security-related acquisitions in the past several months, including Watchfire and Internet Security Systems, and IBM ISS is working with several other companies on ways to better protect corporate data. IBM also plans work related to compliance and security risk management.

#### ■ Falling Prices For Hard Drives

**D**EMAND FOR HARD DRIVES has been on the rise, as the third quarter saw a 21% increase year-over-year in the number of hard drives shipped, from 114 million in last year's third quarter to 134 million this year. That demand has played a role in the prices of hard drives decreasing, with desktop hard drives selling for an average of \$52.75 in last year's third quarter to \$51 this year. Likewise, hard drives in laptops are also becoming less expensive, from averaging \$86 last year to \$53 this year. Other factors in the price drop include competition from

flash memory and the tight competition among major hard drive vendors.

#### More Businesses Restrict Surfing

More than 50% of businesses currently use automated Web filtering systems to restrict employee Web surfing, according to a recent survey of companies using the Barracuda Networks Web Filter. And 65% of businesses expect to restrict Web surfing next year, up about 23% from a year ago. In addition, the study found that slightly more than 50% of companies block My-Space or Facebook, with MySpace being blocked by about 44% of companies surveyed. Web site categories consistently blocked include sites related to hacking, illegal drugs, intolerance and hate, phishing and fraud, offensive content, terrorism, violence, weapons, and spam.

#### Open Source In Government

ACCORDING TO A SURVEY commissioned by the Federal Open Source Alliance, more than half of U.S. government executives have implemented open-source software in their agencies, while 71% think open-source software could benefit their agencies. The survey questioned 218 IT decision-makers working in the U.S. government. In addition, the survey found that 88% of executives working in intelligence agencies thought they could benefit from opensource software, and 90% of those who have already implemented open source believe their agencies benefit from the software. The Federal Open Source Alliance is made up of Intel, HP, and Red Hat.

#### AOL's Q3 Revenue & Subscribers Drop

**DURING THE THIRD QUARTER, AOL** has seen a dramatic decline in both subscriptions and revenue. According to the company's recent earnings statement, the number of AOL subscribers has dropped to 10.1 million during Q3, which is down 5.1 million, or 33%, from the same period last year. Year over year, Q3 revenues have gone from \$1.96 billion to \$1.2 billion, marking a decline of 38%, or \$745 million. In the same period, subscription revenues have decreased 56%, or \$820 million. In 2001, before AOL merged with Time Warner, the company had more than 30 million subscribers.

#### ■ 17 Indicted In Huge ID Theft Bust

AFTER A TWO-YEAR INVESTIGATION by the office of Manhattan District Attorney Robert Morgenthau and the U.S. Secret Service, 17 people have been indicted in a Manhattan-based identity theft and money laundering operation. During a four-year period, bank accounts owned by Western Express International moved more than \$35 million in funds. Authorities have identified more than \$4 million worth of credit card fraud and say the company trafficked more than 95,000 stolen credit card numbers. If convicted, each of the 17 suspects could receive up to 25 years in prison.

#### Vonage Tentatively Settles Lawsuit With AT&T, Posts Loss

VOICE OVER IP COMPANY Vonage plans to pay about \$39 million to settle the lawsuit AT&T brought against it claiming Vonage infringed on a patent for "packet telephone system" technology that allows VoIP to work. The settlement hasn't gained final approval yet, but the competitors say they will "work diligently" to finalize it. This move follows Vonage paying both Verizon and Sprint Nextel patent settlements last month. Taking into account the previous settlement payments, Vonage reported a fiscal Q3 net loss of \$161.8 million, compared to a loss of \$62.2 million year-overyear. The company's quarterly revenue rose 30% over last year to \$210.5 million.

#### Upcoming IT Events

#### - NOVEMBER -

Gartner Annual Data Center Conference

November 27-30 Las Vegas, Nev. www.gartner.com/it/summits /lsc26/index.jsp

> . . . . . ITEC Portland

November 28-29 Portland, Ore. www.goitec.com

#### - DECEMBER -

Gartner CIO Summit

December 2-4 Amelia Island, Fla. www.gartner.com/it/summits /cios2/index.jsp

> . . . . . ITEC Atlanta December 5-6 Atlanta, Ga.

www.goitec.com . . . . . ITC East

December 5-6 Harrisburg, Pa. www.govresources.com

#### - JANUARY -

Storage Visions 2008 Conference January 5-6

Las Vegas, Nev. www.storagevisions.com

Florida Educational Technology Conference

January 22-25 Orlando, Fla. www.fetc.org

. . . . . WCA International Symposium & Business Expo

January 29-Feb. 1 San Jose, Calif. www.wcai.com

#### - FEBRUARY -

SCALE 6x - 2008 Southern California Linux Expo February 8-10 Los Angeles, Calif. www.socallinuxexpo.org

. . . . . Comptel Plus Spring 2008 Convention & Expo February 24-27

Nashville. Tenn. www.comptel.org

#### - MARCH -

Gartner Wireless & Mobile Summit March 3-5 Chicago, III. www.gartner.com/it/summits /ra11/index.jsp

. . . . . Secure IT Conference March 4-6 San Diego, Calif. www.secureitconf.com

Help Desk Institute Conference March 9-12

Dallas, Texas

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This information provides a quick glimpse of current and historical stock prices and trends for 15 major companies in the technology market.

Company	Symbol	Year Ago	Nov. 7	Nov. 13	% change from previous week
BEA Systems	BEAS	\$13.12	\$17.08	\$16.89	▼ 1.11%
Computer Associates	CA	\$22.45	\$26.53	\$25.40	<b>▼</b> 4.26%
Cisco Systems	CSCO	\$26.93	\$32.75	\$30.14	▼ 7.97%
Dell	DELL	\$24.86	\$29.31	\$28.21	▼ 3.75%
Electronic Data Systems	EDS	\$27.24	\$20.49	\$20.33	▼ 0.78%
Google	GOOG	\$498.79	\$732.94	\$660.55	▼ 9.88%
HP	HPQ	\$39.77	\$51.84	\$49.50	<b>▼</b> 4.51%
IBM	IBM	\$93.81	\$111.08	\$105.27	▼ 5.23%
Intel	INTC	\$22.10	\$26.90	\$26.14	<b>▼</b> 2.83%
McAfee	MFE	\$28.41	\$38.21	\$37.61	▼ 1.57%
Microsoft	MSFT	\$29.40	\$35.52	\$34.46	▼ 2.98%
Oracle	ORCL	\$19.46	\$22.10	\$20.52	▼ 7.15%
Red Hat Software	RHT	\$16.67	\$22.11	\$20.14	▼ 8.91%
Sun Microsystems	JAVA	\$5.47	\$5.22	\$21.25*	
Symantec	SYMC	\$20.66	\$17.29	\$17.53	<b>▲</b> 1.39%

\*Sun Microsystems investors approved a 1-for-4 reverse stock split. NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

#### **SIX QUICK TIPS**

# **Optimize KVM** & Console Management

by Christian Perry

As KVM AND CONSOLE management technologies continue to morph as they adapt to ever-changing enterprise requirements, adequately managing them can be an ordeal. With this in mind, we've tapped some of the brightest minds in this space to lend their expertise on ways to optimize existing equipment and integrate newer technologies.

#### **Keep In Tune With Conditions**

According to Keith Renty, business and product manager for ATEN Technology (www.aten-usa.com), developing a costeffective switch system that meets current and future company requirements relies heavily on an understanding of the nature of day-to-day and emergency access by staff who control the computers. Likewise, he says, it's essential to have a grasp of the priority of uptime—or the cost of downtime. Without knowledge of these conditions, it can be difficult to plan for future growth, in turn leading to a purchase of a "dead-end" system that's unable to scale up later.

"Remember, too, that it's useful to think of the physical attachment of computers in terms of throughput, as compared with the

more 'linear' way of organizing them by rack or company group, which tends to be the way racks and data centers are planned," Renty says. "With modern menudriven KVM switches, the logical grouping of computers can be handled by administrators via user accounts and passwords,

"I recommend they replace these via a state-of-the-art, 16-, 32-, or 64-port KVM over IP switch to give them at-the-rack and remote IP access," Dominach says. "This gives an immediate productivity gain from remote access over IP. You can [obtain] access in the data center or lab, from your desktop, while in a meeting, at home, when traveling, etc."

Thanks to their high levels of performance and security, KVM over IP switches now make it possible to access IT servers over the Internet. Dominach points out that

### "When shopping for your data center, you should look for a full solution set instead of just point products, or, over time, you will find your data center isn't scalable."

-Avocent's Bill Allen

where a given user sees and has access only to his or her pertinent machines."

#### Move To KVM Over IP

Many companies continue to use multiple small, 4- and 8-port KVM switches that they've purchased over the years from different manufacturers, says Raritan (www.raritan.com) Senior Product Manager Richard Dominach. The result of this collection is what he calls a "KVM hodge-podge."

managers can access IT servers over their company's VPN via cable modem or DSL, and KVM over IP sessions are encrypted using 128-bit AES or RC4 encryption.

IP-based switches from Raritan, Rose Electronics (www.rose.com), and others deliver a wide range of options that can mesh with practically any IT environment. These solutions also include advanced configuration tools that help managers ease the integration of the switches into existing architectures.

#### BEST TIME-SAVING Investment:

#### Remote Management

O Managers tasked with maintaining groups of computers in various locations (such as multiple server closets) around their facilities can benefit from using an IP-KVM switch with a remote PDU (power distribution unit) in each area. They can then be managed centrally via the LAN or Internet, says Keith Renty, business and product manager for ATEN Technology (www.aten-usa.com).

"This is cheaper than building a central data center, and it saves a lot of time compared to having to physically run all over the facility to monitor and fix problems. While remote desktop/remote console software may let you handle many of these issues, it won't help when a system is locked up and you need to reboot it, particularly if you have to intercept the boot process, reset the CMOS, and so forth," he says.

#### UNUSUAL TIP:

#### Utilize Your AAA Policy

O Avocent's (www.avocent.com) Bill Allen recommends that managers actually use their AAA (authenticate, access, audit) system and provide hierarchical access. Although it might not sound especially unusual at face value, Allen says he's constantly surprised at the number of IT departments that allow almost every staff member to have access, despite the presence of an AAA policy.

"That defeats the purpose. Best practice dictates you should set up permissions based on 'need,' not 'would like to have.' If you actually audit who is accessing what equipment or information, you will most likely find that IT staff are only accessing what they really need anyway," he says.

#### **Avoid Gap Fillers**

According to Bill Allen, director of product management at Avocent (www.avocent .com), some enterprises tend to purchase KVM over IP switches or serial console managers with a philosophy that point products will fill gaps. But that's not the right move, he says.

"The best advice is for IT departments to do their homework and research before making a purchase," Allen says. "There are a large number of very good IT equipment manufacturers, but when shopping for your data center, you should look for a full solution set instead of just point products, or, over time, you will find your data center isn't scalable."

By targeting a full solution set, an enterprise will not only save money, Allen says, but the environment will be scalable, and managers won't be locked in to separate management tools for disparate pieces of equipment—after all, time is wasted even when opening separate Web browser sessions for each device. The better option is to choose a product that can aggregate all of those sessions into a single screen.

Perform mouse synchronization. Raritan's (www.raritan.com) Richard Dominach says that one of the most common complaints stemming from KVM over IP users deals with mouse synchronization—in particular, the mouse cursor on the remote does not synchronize with that of the local desktop. He recommends using one of two solutions. One solution requires the administrator to read the KVM device manufacturer's documentation and manually set the mouse parameters on each server. The other solution is to use a product such as Raritan's Dominion KX II switch, which has Absolute Mouse Synchronization technology that automatically synchronizes the mouse for modern Windows and Mac servers.

Add an adapter for remote access. According to ATEN Technology's (www.atenusa.com) Keith Renty, you don't necessarily need to replace an existing switch if you need remote access but have a KVM system that provides only remote access. "You can add an IP-KVM adapter to the local console port of that switch," Renty explains. "With most such adapters, there's a splitter, so you preserve the local port, as well. This doesn't create a new 'unique' user path—you'll still only be able to address one computer at a time from a given console port. This is great if you have to be on call when you're not at the office."

#### **Perform Personnel Assessments**

Keeping regular or occasional tabs on how many people are accessing connected computers locally (such as technicians or administrators within a few hundred cable feet of the switches) vs. how many people are accessing computers remotely (via LAN/WAN/Internet) is an important step, says ATEN's Renty.

"If the primary access is local—directly plugged in to the switch or via CAT 5 cabling to user consoles—it makes sense to use an analog KVM switch since its consoles deliver faster real-time response and better video quality than digital IP-based access. Besides, often-not always-the cost per console and CPU port is lower in analog switches than in digital switches," Renty says.

On the other hand, he explains, if the primary access method is remote (via IP), or if the controlled computers and KVM switches are scattered about a broad area or even separate floors of a building, the better choice is IP-based switches with a local console port.

#### **CLIENT SOFTWARE** NOVEMBER 16, 2007

dtSearch

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TODAY'S ENTERPRISES are filled with vast amounts of data in a variety of formats in seemingly endless numbers of locations. Finding the information you need can be daunting, which is where programs such as those from dtSearch can be essential.

dtSearch can instantly search terabytes of text because it builds a search index that stores the location of words in documents. Indexing is easy: Simply select folders or entire drives to index and dtSearch does the rest. dtSearch automatically recognizes and supports all popular file formats and never alters original files.

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PHYSICAL INFRASTRUCTURE

# Pay Attention To Your IT Data Center's Environment

# **AVTECH's Room Alert Lineup Provides The Right Mix Of Features To Meet Any Organization's Data Center Needs**

Environmental conditions in today's dense IT data centers are a major concern facing managers who already have too many responsibilities. Power outages, air conditioning failures, or blocked ventilation can cause temperatures to rise to 85 degrees or higher in minutes. Room temperatures above 85 degrees will damage equipment and put data at risk.

AVTECH Software's Room Alert lineup of advanced computer room environmental monitors watch your data center in real time, alerting you to problems and taking automatic corrective action.

Wherever environmental monitoring is important, Room Alert acts like a silent watchman to alert the right people at the right time and by the right method when environment changes occur.

#### **Temperature, Humidity & More**

The Room Alert lineup comes in four models (see chart for comparison): the 7E, 11E, 24E, and 26W. All are designed specifically to assist with monitoring computer room temperature, humidity, power, flooding, and much more in multiple locations.

Room Alert can monitor rooms ranging from small, unmanned phone or wiring closets to large, corporate data centers; Room Alert is affordable yet expandable and powerful enough to monitor extremely large or even multiroom data center environments.

The Room Alert provides an easy-to-use solution that does not require a host PC to operate. Hardware installation is quick and easy: Plug Room Alert into your network via Ethernet and place the wireless or other external sensors in the desired locations, allowing for nearly immediate IT environment monitoring from virtually anywhere.

You can set up Room Alert via the builtin Web server interface in minutes. Within the Room Alert Web server interface, you can change configuration settings, set up alert thresholds, and calibrate sensors. Firmware updates are easily completed with the click of a button, ensuring that your Room Alert ID Box is running with all the latest features and enhancements.

#### **Real-Time Insight**

The real-time insight available via Room Alert is invaluable for knowing when and

where important or critical environment changes or extremes occur. Room Alert allows temperature, humidity, and sensor status logging, advanced alerting, Fahrenheit or Celsius, temperature and humidity values in alerts, high and low watermarks, wireless sensor monitoring, and more.

Sensors can be easily added to any available set of switch sensor contacts on the Room Alert ID box. With all Room Alert models, you can purchase additional sensors to monitor temperature, humidity, power, flood, smoke, motion, sound, air flow, room entry, panic buttons, and more.

With the Room Alert 26W, AVTECH's newest addition to the Room Alert family, you can add WiSH (Wireless Sensor Hub) sensors. These battery-powered sensors communicate via a secure, private protocol that is ZigBee compatible, letting you monitor large numbers of sensors indoors and out up to 250 feet away, so you can monitor virtually anywhere, including inside a rack cabinet, air vent, subfloor, or other location.

With the Room Alert, you'll:

• Save your organization valuable time and money by eliminating the expense of

running cables, preventing disasters, reducing downtime, streamlining IT recovery, and protecting your data center.

**NOVEMBER 2, 2007** 

- Allow staff to be more responsive, taking action to save data and equipment before environment changes can cause problems or disasters.
- Create a more lights-out IT environment, without the need for onsite staff to monitor temperature, humidity, and other environment changes in person.

#### **Real-Time Readings**

The power behind the Room Alert product is the Room Alert's built-in Web server or the bundled PageR Enterprise software. PageR lets you monitor real-time temperature and humidity, high and low watermarks, wireless sensor status, environment sensor status, current alarm status, and much more on Room Alert boxes and other devices network-wide.

PageR Enterprise watches anything across your network to notify remote IT staff when important events occur. When events occur or thresholds are passed, PageR automatically sends out event status information through a modem or network connection to a mobile phone, pager, PDA, email, IM, log file, Web page, console station, audio alert, or other means. Alert notifications communicate current event status, and PageR can start applications or run VB and JScript scripts or commands as a response to an object going in or out of an alarm state.

- Know immediately when important or critical server and network events occur that could lead to expensive downtime or lost worker productivity.
- Monitor across an unlimited number of server and OS types, across the department or an organization's worldwide network. Watch anything network-wide.
- Monitoring of events can be scheduled down to any one minute a month with dependencies established to control what alerts are sent, when, and in what order. This alert filtering prioritizes alerts to reduce "alert flooding" during a crisis.
- View monitoring status in real time via PageR's built-in Web browser interface from anywhere.
- Run PageR as a service to ensure an always-on monitoring solution with automatic restart on reboot.
- Easily integrate environment products like TemPageR or Room Alert to monitor physical data center conditions like temperature, humidity, power, flood, smoke, and more.
- Enjoy easy, immediate contact with IT staff by using PageR's interactive or manual paging and notification utility. Contact information is protected and interactive use is logged for security.

With PageR, you can save time and money while making your department more responsive to IT events and threats. PageR delivers knowledge and power to your staff and managers, giving them the advantage of time and information.

## **How The Room Alert Models Compare**









#### Room Alert 26W

- \$1,195 (1U 19-inch rack model)
- Built-in digital temperature sensor
- Built-in digital humidity sensor
- Built-in main power sensor
   Built-in flood sensor (just add
- One external digital temperature sensor
- One external room entry sensor
- Six external digital sensor ports
- 16 sets of switch sensor contacts for connection of additional external environment sensors
- Built-in UPS
- One WiSH (Wireless Sensor Hub
- PageR 20 Object Enterprise software license
- Power adapter, 10-foot Ethernet cable, printed and PDF documentation, CD media and Getting Started materials
- 12 months of toll-free technical support, software updates, maintenance, and hardware guarantee

#### Additional options include:

- External digital sensors for temperature/humidity, temperature, and power
- External switch sensors for temperature, humidity, power, flood, smoke, motion, sound, light, air flow, room entry, and more
- PageR Enterprise software license upgrades
- International plug adapter

#### Room Alert 24E

- \$895 (1U 19-inch rack model)
- Built-in digital temperature sensor
- Built-in digital humidity sensor
- One external main power sensor
- One external digital temperature sensor
- One external room entry sensor
- Six external digital sensor ports
- 16 sets of switch sensor contacts for connection of additional external environment sensors
- PageR 20 Object Enterprise software license
- Power adapter, 10-foot Ethernet cable, printed and PDF documentation, CD media and Getting Started materials
- 12 months of toll-free technical support, software updates, maintenance, and hardware guarantee

#### Additional options include:

- External digital sensors for temperature/humidity, temperature, and power
- External switch sensors for power, flood, smoke, motion, air flow, room entry, and more
- PageR Enterprise software license upgrades
- International plug adapter

#### Room Alert 11E

- \$495 (standard model)/\$545 (rack model)
- One external digital temperature/humidity sensor
- One external digital temperature
  sensor
- One external power sensor
- Eight sets of switch sensor contacts for connection of additional external environment sensors
- PageR 10 Object Enterprise software license
- Power adapter, 10-foot Ethernet cable, printed and PDF documentation, CD media and Getting Started materials
- 12 months of toll-free technical support, software updates, maintenance, and hardware guarantee

#### Additional options include:

- External digital sensors for temperature/humidity or temperature
- External switch sensors for temperature, humidity, power, flood, smoke, air flow, room entry, and more
- PageR Enterprise software license upgrades
- International plug adapter

#### Room Alert 7E

- \$395 (standard model)/\$445 (rack model)
- One internal digital temperature sensor
- One external digital temperature sensor
- One external power sensor (loss of main or UPS power)
- Three sets of switch sensor contacts for connection of additional external environment sensors
- PageR 10 Object Enterprise software license
- Power adapter, 10-foot
   Ethernet cable, printed and
   PDF documentation, CD media
   and Getting Started materials
- 12 months of toll-free technical support, software updates, maintenance, and hardware guarantee

#### Additional options include:

- External digital sensors for temperature
- External switch sensors for temperature, humidity, power, flood, smoke, air flow, room entry, and more
- PageR Enterprise software license upgrades
- International plug adapter

## PageR Enterprise

Room Alert is a lineup of advanced computer room environment monitors that monitor your data center in real time, alerting you to problems and taking automatic corrective action; PageR Enterprise software watches anything across your network to immediately notify remote IT staff and managers when important events occur

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**NETWORKING & VPN** 

## **Better IP Address Management**

New Infoblox Appliance Keeps It Simple, Central

TOO OFTEN, managing IP addresses involves spreadsheets, manual processes that ultimately lead to mistakes or being blown off for more business-critical tasks. Thus, it's prudent for SMEs to automate such processes so their limited IT staff can focus on more business-critical operations

Infoblox announced the Infoblox IPAM WinConnect system, an IP address management appliance with integrated software support for Microsoft DNS and DHCP services that automates the often times tedious processes related to administrating IP addresses. It's important that



SMEs should consider the impact of automating the administration of their IP addresses when considering this solution.

With the IPAM WinConnect, SMEs can manage DNS, DHCP, and IPAM from a centralized console through a GUI offering graphical and hierarchical representation of the IP map and view detailed audit logs providing administrative audit trails. If your

SME has to comply with compliance programs, IPAM WinConnect's reporting capabilities will be a boon around auditing time. It also automates data backups of your IP address data under management.

The power of IPAM WinConnect is the detailed audit logs providing administrative audit trails for regulatory compliance. The audit logs offer insight into historic and current IP usage, as well as automatic discovery of IP devices on the network. Moreover, delegated administration provides granular, role-based administrative ownership where it is most appropriate while protecting the network as a whole.

Infoblox is already an established appliance vendor, and the IPAM WinConnect runs on reliable, security-hardened Infoblox appliances running NIOSTM software for simplified installation and easy software

updates. It also offers automated backup and restore to enable high uptime and eliminate data loss. It is agentless and does not require any modifications to existing Microsoft DNS/DHCP infrastructure for seamless installation and minimal maintenance.



NETWORKING & VPN

OCTOBER 26, 2007

NOVEMBER 16, 2007

## **Improved Application Availability**

A10 Networks' AX Series Next-Generation Server Load Balancer Provides Industry's Best Price/Performance



**Two AX SERIES** switches from A10 Networks are designed to provide reliable, cost-effective application-delivery platforms.

A10's AX Series is the industry's best price/performance advanced traffic manager, helping enterprises maximize application availability through a scalable, high-performance application delivery platform.

The AX's ACOS (Advanced Core Operating System) architecture is revolutionary by market standards because of its native multisystems support, which includes an optimized multi-CPU architecture built from the ground up designed for performance, scalability, and reliability.

The AX's ACOS architecture scales performance across multiple decoupled CPUs and specialized programmable ASICs linearly to ensure maximum scalable performance, including when all of the features are turned on. The AX Series' aRule Advanced Scripting technology provides ultimate policy creation flexibility to deliver rich traffic inspection and switching capabilities, helping organizations adapt to everchanging conditions and application types.

The end result is a switch with uncompromised performance even when all features are turned on, which helps organizations reduce data center power, server, and rack space requirements. Plus, all features are included in the standard list price.

The two newest AX Series appliances, 2000 and 2100, are 2U appliances designed for enterprise data centers and server farms. The AX 2000 has two CPUs, 2GB of memory, eight Gigabit over copper ports, two G small-form factor pluggable fiber ports, and an 80GB hard drive. The AX 2100 has those same components, plus an additional two CPUs and two G small-form factor

pluggable fiber ports; the 2100 also has dual 80GB RAID 1 hard drives.

All AX models feature carrier-grade hardware, the industry's best SSL and Layer 4-7 price/performance, support for IPv4 and IPv6, and an industry-standard command-line interface and easy-to-use GUI.

#### A10 Networks AX Series

The AX Series is the industry's best price/ performance next-generation server load balancer

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#### November 23, 2007

# A Barrier Of Protection Against Water Loss

# **Invetex Environmental Sensing Technology Protects Data Center Equipment**

by Darrell Dunn

WATER AND HEAT are among a data center's worst potential threats, and the increasingly mission-critical nature of IT has businesses holding IT staffs and facilities managers to a high degree of accountability for system uptime. Proactive and easily deployed environmental monitoring products

#### **Company Information**



Company name: Invetex

Location: Huntsville, Ala.

Date founded: 2005

URL: www.invetex.com

Phone number: (866) 582-5029

Interesting fact: The corporate mission to develop advanced water sensing technology was determined by executive brainstorming over issues facing data center management.

from Invetex alert data center managers or other IT staff and corporate executives of issues related to water or temperature before they can escalate into potential data center nightmares.

"Our products are designed to detect the sort of anomalies that indicate you may have a problem," says Bill Emerson, marketing and sales director for Invetex. "We work with medium and large firms that are looking at cost avoidance. If they haven't experienced an environmental issue themselves, they know someone that has. Businesses realize they have too much investment in that infrastructure to play a game of chance."

Invetex was formed in Huntsville, Ala., in 2005

to market the technology developed by its chief engineer, Joseph McGinty, and its products now provide detection and alerting capabilities that can guard the wellbeing of expensive equipment, as well as the data inside the equipment. The products are being used in other critical locations

such as hospitals and medical offices or museums and libraries, Emerson says. The products alert key personnel to such potential problems as leaky roofs or plumbing mishaps as the situations occur and eliminate the terrible incident of walking in on a Monday to discover valuable equipment and resources have been destroyed by a



freak storm or water main disruption over the weekend.

#### **How It's Done**

Invetex's two primary products are the Halotile and Aquapede. Halotiles measure 2 x 2 feet and are attached above standard

ceiling tiles. Each tile contains a sensor to detect water and temperatures. The individual tiles are connected to a control unit, which can be adjusted to measure specific temperature ranges and to detect moisture. The control unit can be set for multiple alarm levels, such as a yellow alarm that notifies a data center manager of a potential issue and a red alarm if no one responds, which would notify the data center manager's boss.

The system uses standard RJ-11 cables throughout to daisy-chain the Halotiles. An operating system polls each tile or Aquapede floor blade several times per second. There is also an RS232 connection that can tie into a PC, which can be used to record events. Whenever an event occurs, all current and previous data are sent to the

PC, where it is formatted and placed in access tables. Users can then query the tables, or the PC can be programmed to send email messages to alert specific individuals that an event has occurred.

The tiles are monitored individually, allowing administrators to pinpoint problem areas as they begin to occur, and LED lights installed on each tile provide a visual alert to help find trouble spots inside data centers.

The Halotiles detect water coming from airconditioning units, over-

**NOVEMBER 2, 2007** 

flowing toilets on higher floors, or any other event that could trigger a release of water. In addition to data centers, the tiles are often used in other high-impact computing areas, such as engineering and research labs.

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NETWORKING & VPN

#### NETWORKING & VPIN

# TeamQuest Model Predicts Resources Required

#### Modeling Capability Sets It Apart From The Competition

IT MANAGERS ARE ALWAYS on the lookout for new ways to make the best use of their limited IT resources, regardless of the size of the enterprise. TeamQuest Model, a capacity planning package, takes the guesswork out of the equation by accurately predicting the resources required to support consistent service delivery at appropriate risk levels. This enables you to right-size and justify purchases, reduce hardware expenditures, and improve the ratio of servers to personnel.

#### **Multidimensional Software**

TeamQuest Model helps enterprises avoid bottlenecks entirely by accurately predicting the specific IT infrastructure required. It ensures systems are optimally configured, avoiding wasteful underutilization but ensuring systems are sufficient to meet required service levels. It also lets you experiment with what-if questions and see the effects of changes before they are made. TeamQuest Model predicts the impact of application changes, server consolidation, business expansion, or workload growth, allowing the right amount of hardware to be allocated at the right time to meet business demands.

Specifically, you can use TeamQuest Model to:

- Predict the resources required to meet service levels as demand increases
- Identify which components will negatively impact response time

• Find the least expensive way to accommodate workload increases

TeamQuest Model uses analytic modeling capabilities to quickly and accurately predict the impact of changes without requiring you to configure any hardware or apply artificial loads. You can thus experiment with configuration changes, consolidation options, and demand levels to be sure you are allocating the right resources to meet business priorities.

TeamQuest Model also predicts response time from different components in a multitiered environment. It supports virtualized environments, including support for simultaneous multithreading on POWER5, micro-partitioning, and shared processor pools.

#### **Analytic & Simulation Modeling**

TeamQuest Model offers both analytic and simulation modeling capabilities. Analytic modeling uses math to calculate how a queuing network will perform. Simulation actually simulates the queuing events that occur during execution. While simulation modeling is useful in specific situations, it often takes longer to build and execute the model. Analytic modeling, however, is a fast and accurate technique most often used by TeamQuest customers.

Regardless of the modeling technique used, a baseline set of measurements is taken on a system, and a model is then built based on a description of the system. Results from the model are compared with the baseline, and when they match, the model is considered calibrated. From there, hypothetical changes can be made to system configuration or business workloads, and the model will predict how the changes will affect performance.

#### **Myriad Features**

Using the capacity planning software, you can model a single system or multitiered applications and analyze your Web server, application server, and database server all together. You can see various systems as components of the overall response time and focus on systems that are causing performance problems. In addition, TeamQuest Model lets you define workloads that span multiple systems and experiment with adding servers to a tier for horizontal scaling.

TeamQuest Model lets you analyze response time by business workload, uncover which devices are responsible for the largest portion of response time, determine what percentage of time is spent in the CPU or waiting for I/O devices, and meet service-level objectives.

By knowing in advance the amount of resources your systems will require, you can make informed capacity planning decisions. You'll be able to consolidate servers with confidence, manage the impact on servers for mergers and acquisitions, and predict the impact of workload changes. You'll also have the knowledge necessary to upgrade just-in-time and objectively justify upgrades to management. The software enables you to get more out of your company's existing resources and identify underutilized resources so you can redeploy them for other services where they will be better used.

TeamQuest Model enables you to be ready for changes in demand. You'll know in advance how systems will respond to unexpected bursts of activity. You can make sure systems are adequately configured for new applications. You will also be able to avoid outages and performance problems by planning ahead and will understand which IT components will likely be your weakest links.

The TeamQuest software also has a reporting feature to report model results, workload and queue result statistics, and summary statistics. You can view the textual reports in TeamQuest Model and graphical reports using Microsoft Excel. You have the option of viewing, customizing, and creating reports quickly and efficiently using Excel or other spreadsheet applications.

#### TeamQuest Model

Capacity planning software that accurately predicts the resources required to support consistent service delivery at appropriate risk levels

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www.itserviceoptimization.com



# **Protection For Portable Storage Devices**

#### **ControlGuard Security Comes To The Rescue**

by Don Reisinger

As many data center managers are all too well aware, many businesses face the challenge of protecting valuable assets.

And more than anything else, data center managers are constantly reminded of the importance of security on one of the most valuable assets they must protect: proprietary information.

And while there are a slew of products available that may protect a small to midsized enterprise from intruders and filter emails, endpoint exposure is usually not addressed. For example, removable media and portable devices are sometimes unsupervised and uncontrolled, and to make matters worse, stakeholders will sometimes

copy proprietary data to USB drives or CDs, which increases the likelihood of this data being lost or stolen.

To combat this very real threat, Control-Guard, a company specializing in endpoint security, provides a number of security

solutions to help manage the secure use of removable media and portable storage devices.

#### **Protecting Your Mission-Critical Data**

As David Raanan, general manager of ControlGuard, explains, "ControlGuard provides an end-to-end mobile data solution: a simple system to centrally define

Control Guard

policies to govern access permission to

More than anything else, Raanan and

ControlGuard are interested in one thing:

making sure employees do not do those

things that make a company unsafe. As

removable media and portable devices."

example, there is really no reason for anybody to connect an iPod to the enterprise network. There is no reason for most employees to burn a CD." And when this happens, Raanan explains, the opportunity for stolen data becomes a very real

disk.com), ControlGuard now offers a solution to combat that loss of missioncritical data. According to the company, the Control-Guard device offers a full solution, including the Cruzer Enterprise hardwareencrypted USB drive, along with central system management. These devices are aimed at giving the control back to the data center

According to Raanan, the ControlGuard solutions "allow network administrators to centrally define the type of devices employees are allowed to use and gain vis-

ibility to the usage of any of those devices

More than anything else, ControlGuard believes that control must be enforced at the administrator level. With that in mind, ControlGuard has always recommended the

Raanan points out, "In a law firm, for

In partnership with SanDisk (www.san

manager.

across the network."

## **Company Information**



Company name:

ControlGuard

Location: Bridgewater, N.J.

Date founded: January 2005

**URL:** 

www.controlguard.com

Phone number: (902) 203-4685

Interesting fact: ControlGuard's worldwide headquarters is in Israel, but it maintains its U.S. base of operations in New Jersey.

use of company-authorized portable storage devices to maintain a semblance of control over the environment and help data center managers maintain their knowledge of where company data is going.

#### The Products That Could Save Your Data

Unlike some other solutions, Control-Guard's main products—Endpoint Access Manager and Endpoint GateKeeperprovide a multifaceted approach of control. Endpoint Access Manager is managed locally by the network administrator and helps her define and control the use of devices. For example, Endpoint Access Manager allows the network administrator to define who can use certain devices, at what time, and how. In addition, the product can be used as a monitoring device that logs all input and output of devices back into the central control.

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When you post a free Want-To-Buy or For-Sale Listing at Processor.com, you save more than time. Hundreds of the nation's leading computer dealers will see your posting and let you know if they have the equipment you are looking for.



# Disposal Done Right

#### **Morgen Industries Makes Electronic** Media Disposal Safe & Secure

by Robyn Weisman

EVEN IF IT WAS ENVIRONMENTALLY sound to toss your old hard drives into a dumpster, you'd risk exposing confidential data to whoever happened to be around. And although you can attempt to obliterate data by overwriting every sector on each drive, doing so consumes time and energy-and still fails to dispose with the physical entity.

"Formatting drives destroys the file system but leaves data easily recoverable. Degaussing with a magnetic field often fails to completely destroy data. And physical destruction

by hammering, drilling, or other violent behavior may disable the drive mechanism but does little to actually destroy the data residing on hard drive platters," explains Leigh Lanzet, director of business development for Morgen Industries, which specializes in electronic media destruction, or EMD for short.



#### **Company Information**



Morgen Industries Company name: Morgen Industries

Location: Secaucus, N.J.

Date founded: Oct. 19, 2000

**URL:** morgenindustries.com

Phone number: (888) 866-7436

Interesting fact: According to Morgen Industries' Leigh Lanzet, 5 to 8% of all hard drives across the entire country stop spinning every single month, eliminating the possibility of destroying the data residing on those drives utilizing software solutions.

#### Morgen's Chain Of Custody

According to Lanzet, EMD encompasses the process of physically shredding electronic media and documenting the process so companies know their media was securely destroyed and disposed of and can offer documentation for regulatory purposes.

"Our Chain of Custody [COC] separates us from any other company," Lanzet says. For large onsite jobs, the COC begins by preprogramming Morgan's barcode scanners with the customer's information. Then a bonded technician scans every piece of media the customer wants destroyed, logging the serial number before putting it into a serialized container. As soon as the scanning is

complete, the technician has the customer's authorized representative sign off on the scanners themselves so that there is a record of that individual witnessing the action.

Morgen's technician locks the serialized container with a serialized security bolt, which the customer's representative also records. The technician brings this container to the Morgen truck (which is equipped with GPS tracking) and drives it to the company's facility. The customer is notified of the container's arrival, along with a passwordencrypted invitation that allows him to view the shredding of his media in real time via an IP camera. According to Lanzet, all media is shredded within 24 hours of receipt.

Lanzet says that smaller projects work in a similar fashion. Morgen ships a serialized lockbox with precut inserts to accommodate whatever size media the customer wants destroyed, along with instructions on how to record serial numbers and secure the lockbox with the enclosed serialized security bolt. The lockbox is sent overnight to Morgen Industries' facility, and as soon as it arrives

at the facility, Morgen notifies the customer. "From there, the procedure is the same as when the truck arrives at our facility except for the fact that we scan the serial numbers on the drives and cross-check it against the list sent from the customer prior to destruction," Lanzet says.

"After the destruction process, we provide a Certificate of Destruction along with a detailed list by serial number of every item shredded so that the customer has an accurate paper trail, [and] we also provide a video copy of the shredding process so that there is a visual record, as well," Lanzet says.

#### **Accurate Asset Tracking**

Morgen Industries also stresses the necessity of Accurate Asset Tracking, which is its practice of barcode scanning every piece of media at the start of its COC process. "There are many institutions that do not barcode all their storage tape and other media besides hard drives, [but] everyone these days has to be accountable," says Lanzet.

"Whether the entity has to comply with Sarbanes-Oxley, Gramm-Leach-Bliley, HIPAA, or any of the other regulations that have been put in place, an accurate accounting on every item that holds information is a must before it can be destroyed [because] the liabilities associated with noncompliance translate to millions of dollars in some cases," Lanzet explains.

#### **Giving New Jersey A Good Name**

Lanzet also says that in its mission to be EPA-compliant, Morgen engages statelicensed, EPA-certified recyclers that separate and granulate the resulting "pulp" that remains from the shredding process and take it down to recyclable material. "Let's face it; New Jersey is the butt of every landfill joke ever told," Lanzet says. "We are as intent on handling this aspect of the project responsibly as any other aspect."

NETWORKING & VPN

## **NOVEMBER 9, 2007 Network Instruments Observer Caters To Customers**

#### Version 12.1 Boasts Support For Security Forensics, VolP & IPv6

THE LATEST VERSION of Network Instruments' Observer network analysis software, 12.1, includes features that stem from customer suggestions, such as increased customization options and the capability to show certain statistics graphically. Support for IPv6 and enhanced VoIP reporting are also included in the new version.

The Observer product family embraces three core products: Observer Standard, Observer Expert, and Observer Suite. All editions of the software offer the following features:

- Packet capture and decoding
- Real-time statistics and trending

· Support for shared and switched network environments

VoIP Expert is a component of the Observer Expert and Suite products that can be used to analyze and troubleshoot VoIP on your network. VoIP Expert provides visibility into network-, application-, or conversation-level VoIP traffic; the software

also supports QoS and call detail record trending. Observer version 12.1 extends integration with the GigaStor retrospective network analysis appliance and its Observer Reporting Server.



Network Instruments Giga-Stor is a 1U or 4U appliance that connects to a network and captures and saves everything traversing the network. It provides long-term, realtime, and post-capture network statistics across multiple topologies and technologies. This tool is optimized

for data mining, network forensics, and data retention compliance applications.

The Observer Reporting Server integrates tightly with the Observer protocol analyzer family and GigaStor. Reporting Server cen-

trally consolidates data captured from one or more Observer-based network probes and lets admins display reports of the data in a meaningful manner.

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PHYSICAL INFRASTRUCTURE

**OCTOBER 26, 2007** 

## A Master Enterprise View

**New ATEN KVM Bundle Provides Perfect Features** For Monitoring & Maintaining Servers & PCs

TODAY'S DATA CENTERS require convenient, space-saving, streamlined KVM equipment. ATEN's 17" Single-Rail LCD Integrated Console and MasterView KVM bundle is designed with those needs in mind.

ATEN's economy LCD KVM console, CL1000M, integrates a keyboard, 17-inch LCD, and touchpad in a 1U Slideaway housing. Setup is fast and easy. There is no software to configure, no installation routines, and no incompatibility problems. Slide the console module section out and flip up the cover, and you are ready to work.

When finished, flip down the cover and slide the console module back into the rack.

By using the CL1000M to manage your installation, you save space; eliminate the expense of having to purchase a separate keyboard, monitor, and mouse for each PC if attaching to a KVM switch; and can take advantage of upgrading your current system

ATEN is now bundling the CL1000M with an eight-port MasterView Plus,

which helps reduce the need for redundant hardware. With the MasterView Plus, you can control up to 512 computers with a single keyboard, monitor, and mouse. And it requires no software.

MasterView Plus is more than a simple eight-port KVM switch. A built-in Auto-Scan mode lets you monitor every attached computer for a specified amount of time, while the on-screen display lets you assign a

> unique name to each computer and access it via a slick, menu-driven interface. A Quick View Scan feature makes it easy to monitor selected PCs, and hot-pluggable



inch rack-mountable casing and status-monitoring LEDs make it ideal for server rooms or other multicomputer environments.

capabilities mean you can add or remove

PCs for maintenance without powering

down the switch. The MasterView's 1U, 19-

ATEN 17" LCD Integrated Console & MasterView KVM (model

Includes an eight-port KVM switch and a KVM console with a keyboard, 17-inch LCD, and touchpad

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# NAS For The Masses

# Synology Offers An Affordable Backup & Storage Solution

by Sandra Kay Miller

SYNOLOGY HAS ALREADY RACKED UP numerous accolades and awards throughout Asia and Europe for its versatile and affordable line of NAS (network-attached storage) systems. Recently introduced into North America, small to medium-sized enterprises should consider Synology's products in addition to well-known midsized NAS vendors.

"Small businesses can make use of our products in many ways, especially for office backup," says Cheen Liao, president of Synology America and one of the company founders.

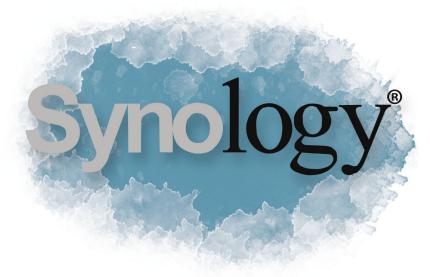
Supporting both PC and Mac platforms, Synology's NAS solutions range from a simple small-footprint Cube Station (CS407), a 4-bay SATA NAS server, to the Rack Station (RS407), a rackmounted 1U appliance with 4-bay hot-swap drive capacity. For smaller installations, the Disk Station line

offers single and dual drive bay models.

All of Synology's solutions support Windows ADS Authentication and NT4, encrypted FTP and network backup, USB printer sharing, and Web site hosting with PHP and MySQL, along with the latest feature, remote file management via Web

browser. Most recently, Synology opened its products for Telnet support to aid the growing demand for Linux interoperability.

For models supporting multiple drives, Synology's flexible design lets users upgrade RAID volumes as drives are added—a perfect solution for growing businesses. "Smaller companies can now have a competing edge when it comes to backup," notes Liao.



Smaller organizations will also appreciate the extensive hardware compatibility Synology delivers. Currently, more than 70 IDE, SATA, and SATA II hard drives from the leading manufacturers (ranging from 120GB to 1TB) have been tested with Synology products. A wide selection of

additional peripheral devices, such as UPSes, USB printers, digital media adapters, and USB speakers, are also supported.

#### **More For Less**

Price is driving the storage market for the small to midsized market. "Disk size is getting bigger and cheaper," says Liao. "With the combination of inexpensive machines and larger disk drives, it really solves the growing storage demands of smaller companies."

In addition to a multitude of storage fea-

tures, Synology has introduced its latest version of the company's freely available Data Replicator program—a powerful Windows-based backup utility that can be installed on end-user machines for immediate and scheduled backup, as well as file synchronization. "Anytime there are any changes, the Data Replicator will detect it and automatically make a copy to a server," notes Liao.

New to this version is expanded backup for mobile employees. "Every time you

come back to your office network, once you've connected, Data Replicator will search for the server and begin to do the backup. You won't have an excuse not to back up anymore," adds Liao.

One of the advantages Liao sees for small to midsized enterprises is Synology's

ability to improve digital security and build a disaster recovery system at a reasonably priced cost. Thanks to encrypted FTP and Network Backup, data can be transmitted via SSL or TLS. "Because the unit is so inexpensive, you can do network backup with one unit with a scheduled backup to another unit in an offsite location," notes Liao.

Synology products also support other leading vendors' backup software, including Acronis (www.acronis.com), EMC (www.emc.com), Computer Associates (ca.com), Symantec (www.symantec.com), LaCie (www.lacie.com), and open-source Clonezilla (clonezilla.sourceforge.net).

#### Multitasking

Synology products are much more than NAS and backup solutions. Multiple *Go to Page 13* 

#### **Company Information**



**America** 

**Company name:** Synology America

Location:

Location: Redmond, Wash.

Date founded: April 2000

URL: www.synology.com

Phone number:

(425) 284-2107

Interesting fact: With an established sales base throughout Asia and Europe, Synology opened an American office in Redmond, Wash., in the summer of 2006.

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NETWORKING & VPN

NOVEMBER 2, 2007

## Geographic WAN Link Balancing

Elfiq Link Load Balancer Lets You Better Manage Traffic & Meet Your Budget & Data Center Needs

ELFIQ NETWORKS' Link Load Balancer (Link LB) 4000E is designed for data centers, incorporating 8Gbps copper ports and two SFP fiber connectors in a compact 1U design. It is licensed with two virtual instances (up to five) of the Link Load Balancer and has three pairs of programmable LAN failover ports. With the powerful Link LB-4000E, you can handle more than 2.4Gbps of WAN throughput.



The LB-4000E redefines the data center-level load balancing field by providing an unmatched functionality/price/performance ratio. It differentiates itself from the competition by operating at the data link network layer (Layer 2 inline/transparent operation) to manage synchronous or asynchronous telecommunication links. Elfiq Link LB implementation is simple and does not require IP address migration or changes to firewalls or routers. This prevents the use of complex protocols, such as Border Gateway Protocol, to support multiple links, and it reduces implementation projects.

The Elfiq Link Load Balancer guarantees optimal access for your network and applications for business continuity, while optimizing your multihomed network throughput. If a link fails, the Link LB will effectively redirect network traffic toward other links based on user-defined policies.

Advanced functionalities such as Geo-Link geographic load balancing make the Link LB a key element of disaster recovery projects and ensure maximum availability to the enterprise's IP services regardless of the scenario or environment. Traffic will continue flowing between sites when a site goes down and geographic policies clarify what kind of traffic or IP service is allowed to use another site.

For point-to-point resiliency implementations such as VPNs or VoIP, Elfiq's Best SitePathMPTX technology monitors the alternate paths and their respective effective bandwidth and then dynamically redirects the packets through the best available path without renegotiating the path, ensuring performance and uptime. The Elfiq Link LB gathers metrics and real-time bandwidth usage; this information can be encrypted and shared between two balancers for redundant implementations.

Elfiq Link Load Balancers are built around the Elfiq Operating System, and the hardware platform has no moving parts, reducing the risk of failures.

#### Elfiq Link Load Balancer 4000

Incorporates 8Gbps copper ports and two SFP fiber connectors in a compact 1U design; can handle more than 2.4Gbps of WAN throughput

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www.elfiq.com



# **Centralized Systems Management**

Continued from Page 1

#### **KVM Over CAT-5 Gains Momentum**

"Nowadays, some of the latest and greatest technology we're seeing is KVM over IP or KVM over CAT-5," Paul Eiler, sales manager at ATEN, says. "We have a product that sells for \$499, but the product is extensible to 1,000 servers." Before CAT-5 cable was used, relatively bulky cables, capable of only short cable runs, were being used.

"The benefit of CAT-5 is in deployment. You can have a massive deployment—the bulk of connectivity is that 95% of your connections will be CAT-5. From a KVM perspective, you can buy boxes of KVM cable and connect [to your servers and KVM switches]," Eiler notes. "It's a little more expensive [than the bulky dedicated cables] but is justifiable for a lot of people."

"One of the reasons why KVMs are becoming more and more popular is that smaller companies are buying more full servers. The price points are coming down very rapidly for very solid servers. Five years ago, you may have gone through servers in five to 10 years—once they were done, they were done. People are augmenting these old servers with newer devices. KVM allows you to do that—take a legacy product, and because of how I connect to it, I don't need to put in a new server. I can upgrade with a KVM and can put anything on it. Smaller organizations that would typically not be looking at KVM technology are now looking at KVM because it allows them to manage multiple assets from one centralized location," Eiler notes.

Using a KVM can also help tame staffing costs, Eiler says. "Five years ago, you may have had five to eight servers and would have an IT person or contract person to manage them independently. Now, you can buy a rack with eight servers, put KVM into play, and manage every server there (through the KVM)," he says. "As companies expand, if they have legacy products they want to get rid of, instead they can add a KVM."

#### Into The Future

"Right now, the thing we're focusing on is increased port density," Eiler notes. "We're

starting to see larger and larger port counts in a 1U or 2U space. With the advancement of IT technology, it's not based on packets; it's based on using CAT-5 as a medium."

"One of the things that is growing now is the demand for higher port counts and DVI inputs on them. More and more monitors and systems are becoming DVI-based. It's not just a situation of doing what is at the top end of the scale but doing what is at the midlevel," Eiler adds. For example, you're now able to buy a four-processor Dell (www.dell.com) server with a DVI video interface, he notes.

ATEN offers a variety of products. Its KVM extenders can automatically adjust the video gain for devices up to 150m away from the switch. The KW1000 uses Wi-Fi to wirelessly connect to and monitor clients or servers with Wi-Fi enabled. The company's KH98 Health Manager KVM switch enables IPMI (Intelligent Platform Management Interface) to monitor hardware-related health factors in servers that support IPMI. IPMI KVM switches also enable remote power management.

In an industry where the number of clients and servers increases at near geometric rates, being able to monitor and control these assets from a central location is becoming increasingly important for companies of all sizes.

#### **Company Information**



Company name: ATEN

Location: Irvine, Calif.

Date founded: July 1979

URL: www.aten-usa.com

Phone number:

(888) 999-2836

Interesting fact: ATEN is a tier-one manufacturer that owns all its technology, from raw material to finished product. It owns and develops all its technology and doesn't have to source it from any other companies.

## **Are You Ready For VolP?**

Continued from Page 1 businesses are ready to make the move to VoIP. Kirchhoff is a spokesperson for Zultys Technologies (www.zultys.com), a California-based communications solution manufacturer. Kirchhoff says Zultys has had great successes since August 2004 focusing almost exclusively on VoIP solutions for its clients. "The greatest successes," he says, "have been multisite companies with clearly defined IT personnel who are able to support VoIP. The failures have

been very small companies not having the

budget and staff to support and understand

#### **Gauging Your VolP Readiness**

the technology."

Here are some of the most important questions to ask yourself to determine whether your enterprise is ready for VoIP:

- What are you primarily trying to achieve with your VoIP implementation? Cost savings, unified communications, or both?
- · Will you manage your VoIP system internally or externally?
- What types of training will your organization need to maximize the return on investment from your new system?
- · What are your organization's communications needs for the next three to five years, and how does this relate to the system you should select?

#### **Ready Or Not**

So how can SMEs tell if their networks are ready for VoIP? Kirchhoff says for starters, many VoIP technology prospects do not fully understand the necessary requirements to get ready for VoIP. He says many refuse to admit the necessity for backend upgrades, as well. Agate, on the other hand, says while these requirements may seem technical to some, increasingly, he is finding that some organizations meet them whether they realize it or not.

Agate says networks need three basic features to be VoIP ready. "First," he says, "the cabling infrastructure must be Category 5 or better to adequately handle voice traffic. Second, the network switches must have PoE (Power over Ethernet), Quality of Service, and virtual local-area networks to create prioritization for voice traffic and to be able to carry voice traffic if electricity is interrupted. Finally, the network must have 80Kbps of bandwidth for every concurrent phone call your business needs to make."

Network evaluations also play a key role in SME VoIP system readiness. But Agate recommends keeping things simple. He says, "For example, we provide a simple remote network evaluation that simulates voice traffic across a network that only takes less than an hour. After this evaluation is complete, a business can rest assured they are ready for VoIP." Agate says if not, NeoPhonetics provides the specific steps that are necessary to get ready for VoIP.

Kirchhoff says as part of the evaluation process, it's important for any SME to have the ability to support VLANs (virtual LANs) and Quality of Service.

Upgrades also play a key part for SMEs looking to move to VoIP systems. Kirchhoff says SMEs should not be without managed switches and enterprise VPN devices supporting telephony feature sets. The good news here, Agate says, is that the majority of SMEs he sees already have enough bandwidth and Category 5 cabling to handle VoIP. He says a clear majority also tends to have a number of network switches with QoS, VLAN, and PoE capability, but generally, SMEs need to purchase some number of additional switches or routers with these features to ensure a quality VoIP deployment.

#### **Answered Questions**

Agate says without a doubt the single most important question to answer is: What is your organization trying to achieve with VoIP? He says, "Too often, organizations begin trying to achieve specific cost savings and then decide to invest larger sums in advanced unified communications capabilities. Understanding how your organization will use its new communications capabilities will help keep the focus on the correct balance between new features and cost savings." He says before considering a solution or vendor, an organization must understand the level of expertise and service it will need from outside integration experts.

According to Agate, too many small to medium-sized enterprises select a solution that is adequate for immediate needs, but they do not consider the horizon in terms of how long they will be using their solution of choice. He notes, "Organizations that consider their expansion and business process integration needs over the next three to five years make better decisions about which solutions and vendors to select."

#### **Open Source Or Proprietary?**

Chad Agate, co-founder and CEO of Neo-Phonetics (www.neophonetics.com), says, increasingly, a core decision for organizations considering VoIP is whether to go with an open-source or proprietary solution and

Agate says, "While the debate between these two alternatives can be clouded with misconceptions, there are some general balancing rules that are worth considering. It is undeniable that you can achieve higher levels of unified communications at a lower per-unit cost with an open-source solution. It is equally valid, however, to point out that the opensource integration community is not nearly as developed as the proprietary alternative. If you decide to select a proprietary vendor and solution, make sure you understand what you are getting and what will require extra licensing fees to achieve. If you decide to select an open-source vendor, make sure you understand their qualifications and experience in implementing VoIP solutions both with the open-source product they are offering and with VoIP networking principles in general."

# **NETWORKING & VPN**

NOVEMBER 2, 2007

## **Speed Problem Identification**

OptiView Portable Network Analyzer Adds Network Mapping & More

RESOLVING NETWORK issues often means knowing what's going on inside the network—but as today's networks move into gigabit speeds, doing that gets harder.

Fluke Networks recently announced new features in version 5.1 of its OptiView Series III Integrated Network Analyzer that will make this easier for network administrators, according to David Skingley, product manager of OptiView Integrated Network Analyzer at Fluke Networks. OptiView is a portable PC-based network monitoring and troubleshooting tool capable of full line-rate gigabit speed analysis.

The new features, according to Skingley, include support for SNMPv3; automatic discovery and classification of Cisco VoIP devices; VLAN trunk analysis; and enabled management port for out-of-band remote control of the analyzer.

The new Application Troubleshooting Expert option, according to Skingley, assists the OptiView user in quickly identifying the problem domain and determining whether the problem is related to the network, application, server, or client. The new OptiView

Reporter option can import data from OptiView and provide comprehensive reporting, documentation, and problem notification capabilities; this data can be exported to Microsoft Office Visio to draw net-

work maps and can speed and simplify the normally time-consuming task of network documentation.

OptiView users, Skingley says, are typically "the people looking at potential outages and degradations that would impact multiple servers or users." The major reasons to use an OptiView include solv-

ing network and application performance issues; managing/validating infrastructure changes; deploying new technologies and applications; and performing security checks through extensive discovery capabilities and providing visibility into network hardware,

applications, and connections. "It's a good solution for monitoring when you can't afford downtime to identify problems when they start to manifest and without taking things offline," Skingley says.

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# A Barrier Of Protection **Against Water Loss**

Continued from Page 8

The Aquapedes are flexible 8-inch long "blades" that can stand alone or be snapped together to form units that can monitor floors or other areas surrounding

high-impact equipment. Each tile contains a sensor that is connected to the monitor to provide alerts should water touch the blades. Placed around a data center floor, the blades can provide early detection in

Strategic use of Invetex sensors can provide a cost-effective security blanket that is not disruptive to the leased physical infrastructure. the event of water from broken pipes or other malfunctioning plumbing.

Aquapedes go under server room floors and can fit around the perimeter or around water drains. The blades can have full contact with the floor, and they are not adversely affected by floor cleaning compounds.

The Halotiles and Aquapedes can be used independently but are often teamed together to provide security on the floor and above data center equipment. Prepackaged Biz-Paks are available for quick and simple installation and deployment. The packs are designed to protect a specific square footage and provide adequate Halotiles, Aquapedes, and cabling for the area, as well as a monitor. A 100-square-foot BizPak provides 25 Halotiles, 24 Aquapedes, cabling, and a monitor for \$3,734.80.

#### Who Can Benefit

The Invetex water and temperature sensing technology can be particularly applicable to companies working in leased buildings where they may have limited control on maintenance of roofs and plumbing and investment in the rented infrastructure is prohibitive, Emerson says. Strategic use of Invetex sensors can provide a cost-effective security blanket that is not disruptive to the leased physical infrastructure. The system pieces can be moved from one room to another or even from one building to another.

Invetex is currently working with large insurance companies in demonstrating its benefits in order to help secure insurance premium reductions for companies that install the systems.  $\square$ 

# **Protection For Portable Storage Devices**

Continued from Page 9

On the other hand, the Endpoint Gate-Keeper solution runs on the endpoint device—a USB drive, for example—and helps secure the data on that drive so it does not leak out into the wild. The company has formed a partnership with USB drive manufacturers that will afford data center managers the peace of mind they require when USB drives leave the office

and head into places unknown. In effect, GateKeeper users will be able to control and selectively authorize which storage devices can be accessed, while other files on the drive remain encrypted.

Because it currently serves firms in the law, financial, and insurance sectors, ControlGuard is constantly trying to find ways to reinvent itself and continue to bring high-quality solutions to the forefront.

Because of this, the company is currently in the process of finding even less burdensome protocols for installing and implementing its service. Right now, Control-Guard software is loaded on a server in the data center, and the company's simple interface is used to define policies. Once complete, the system is up and running, and data center managers are able to control businesses far more effectively.

ControlGuard has a solid handle on what the data center industry is as a whole. Unlike other industries, data center managers are forced to compete with both internal and external influences that have a profound impact on the security and viability of a company's mission-critical data. And although some companies allow the use of portable storage devices in the office, ControlGuard feels this is a mistake. But with the help of its security software solutions on preapproved portable storage devices, companies can have it both ways: security and ease of use.

## **NAS For The Masses**

Continued from Page 11 onboard applications with intuitive Webbased interfaces let users perform a number of operations. Two of the most powerful features are the Download Station and Multimedia Service. Sitting between the switch/router and the endpoint device—be it a PC, Mac, or digital media adapter—both applications provide 24/7 access to stored data through HTTP, FTP, and Bit Torrent.

The latest applications added to Synology products include File Station, a file organizer allowing users to access and manage files remotely via Web browsers;

Audio Station, a music management interface for organizing audio files and streaming audio; and Photo Station 2 + video, which provides management and sharing for images and video.

Despite being a relatively small manufacturer, Synology is big on support and service. Customers can access firmware and utilities through the corporate Web site. There is also an online support form and an extensive FAQ Database. Going even further, there are online forums, blogs, and wikis available in multiple languages.

Liao sees a lot of room for opportunity for growth in storage and backup in the IT and data center industry as a whole. "I think that the bigger companies are outsourcing a lot, and smaller companies are tight on budget. Easy storage and backup management is a good fit for smaller companies."



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#### PHYSICAL INFRASTRUCTURE

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- You have the option to slide your vertical rack rails horizontally as well as vertically. Set your rackmount width to 19 or 23 inches. Talk about versatility!
- Slide the rack rails to one side of the cabinet, allowing for additional 4 to 9 inches. of space on the opposite side to run large cable bundles.



PHYSICAL INFRASTRUCTURE

Rackmount Solutions Ltd. (866) 207-6631 www.rackmountsolutions.net

#### PHYSICAL INFRASTRUCTURE

#### 4 Post 19" Relay Rack



- Vertical Mounting Space: 12U, 26U, 42U
- · Offered in 3 Depths: 24", 30", 36" Deep
- 4 Heavy-Duty Steel Uprights
- 4 Gliders
- Ships Knock-Down
- · Easy to Assemble

#### PHYSICAL INFRASTRUCTURE

#### **Technical Furniture**



- 72"H x 30"W frame and leg assembly on flat levelers
- (2) 30"W x 18.5"D mounting shelves
- 30"W x 25"D lea mounted
- · Set of 19" rackmount brackets-3.5"H x 12"D
- (2) 30"W horizontal aluminum tracks for mounting of flat panel monitor, keyboard, and mouse trav
- Power/cable management
- Optional locking and nonlocking casters



Herao (888) 222-7270 www.hergo.com

## hergo Technical Workspace Solutions

PHYSICAL INFRASTRUCTURE

LCD Display

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RS232 Access

Hergo

### hergo TECHNICAL WORKSPACE SOLUTIONS

(888) 222-7270 www.hergo.com

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#### PHYSICAL INFRASTRUCTURE



#### RPC18

#### 8 Receptacle Power Control / Monitoring w/Trans Switch

- · Current, Voltage, Power, and Temp Monitoring
- Automatic Transfer Switch
- RS232 or Network Interface 120/208VAC 10, 20, 30A Models
- Turn On, Off, or Reboot any or All Receptacles



**BayTech** (800) 523-2702 www.baytech.net

8 Rebootable Receptacles

- Current, Voltage, Power, and Temp Monitoring • LCD Screen displays power monitoring information
- RS232 interface, 120/208VAC 10,20,30A Models

**RPC 14** 

**8 Receptacle Power Control and Monitoring** 

• Turn On, Off, or Reboot any or All Receptacles



**BavTech** (800) 523-2702 www.baytech.net



#### Power Watch & Enviro Watch

#### Remotely Monitor Rack Level Power, Temp & Humidity **Enviro Watch**

- 8- and 16-port models
- · Each port connects to either a PDU or temp/humidity sensor
- Intuitive browser interface for monitoring and administration
- · Set thresholds for email alerts, view graphs, or log data

- Vertical and horizontal rack PDUs up to 60 amps
- Dual-corded models for redundancy or high density
- Programmable LCD meter with local alarm • RS-232 port to communicate with Enviro Watch

**Data Watch** (866) 325-1121 www.data-watch.com

#### PHYSICAL INFRASTRUCTURE

#### **Classic Series - Portable Air Conditioning**



#### Ideal For:

- Server Rooms
- Electronic Equipment
- Primary, Supplemental, or **Emergency Cooling**

#### Featuring:

- · Rentals and Sales
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Atlas Sales & Rentals Inc. (800) 972-6600 www.atlassales.com



• 19" Enclosure

**Rackmount Enclosure Cabinet** 

- 42 U x 36" Deep
- 4 Mounting Rails · Front and Rear Lockable
- Doors, choice of Solid, Tempered Glass, or Perforated
- 2 Removable and Lockable Side Panels
- 4 Dual Wheels

On sale and ready to go!

PHYSICAL INFRASTRUCTURE



#### **RPC 22**

#### 24 Receptacle Remote Power Monitoring & Distribution

- · Current, Voltage, Power, and Temp Monitoring
- · LCD Screen Display
- RS232 Interface 120/208VAC 10.20.30A Models
- · Power Distribution and Monitoring In One Unit



BavTech (800) 523-2702 www.baytech.net

#### PHYSICAL INFRASTRUCTURE



#### **Galaxy Series 3-Phase Power Distribution**

- · Single or Dual Input Cords
- 2 Pole Circuit Breaker Protection
- Horizontal Format
- 208-240V 3-Phase Input at 20A, 30A, or 50A



Cyber Switching (888) 311-6277 www.cyberswitching.com

#### PHYSICAL INFRASTRUCTURE



#### Sentry 30-A Fail-Safe Transfer Switch

- Provides fail-safe redundant power to single-power corded equipment
- Fast Transfer Rate—Power interruption will not affect equipment uptime or performance
- · Patented arc-suppression and power in-feed sharing technology extend product life and performance
- High Density—100 to 240V and 16/32A



Server Technology Inc. (800) 835-1515 www.servertech.com

#### PHYSICAL INFRASTRUCTURE



#### **Enterprise View CDU Manager**

- Remote management of STI Sentry PDUs over IP
- · View your entire system from Global View down to the rack
- Centralized event logging with extensive logs and reports
- · Thermographic mapping shows a visual depiction of hot spots in your data center



Server Technology Inc. (800) 835-1515 www.servertech.com

#### PHYSICAL INFRASTRUCTURE

#### Switched CDU CW-24V2



Power cycle individual or groups of outlets to remotely reboot network devices.

- 208V to 240V Single or 3-Phase power at 20 or 30A
- · Access and Security: Web interface, SSL, SSH, Telnet, SNMP, LDAP, TACACS+, and RS-232 access
- · Environmental Monitoring
- Fuse Retractor
- High-Density 24 IEC C13



Server Technology Inc. (800) 835-1515 www.servertech.com

#### PHYSICAL INFRASTRUCTURE



#### **Modular 3-Phase Power Distribution**

Designed to take a 3-Phase in-feed and distribute single phase power via Basic CDUs that can be placed anywhere in the cabinet. Each Basic CDU has an associated LED meter for simple load balancing. The Master unit contains the LED meters, temperature/humidity probe input, serial connection, IP connection, and exclusive link port to connect an expansion CDU for linking together CDUs on different power circuits.



Server Technology Inc. (800) 835-1515 www.servertech.com

#### PHYSICAL INFRASTRUCTURE

\$1,900 New Product!



#### Rackmount LCD Drawer With KVM Over IP

i-Tech SuperStore for Rackmount LCD Console Drawer

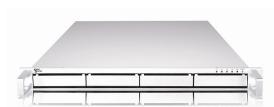
- 15", 17", 19", and 20" is also available
- Optional with 8/16 ports KVM
- New integrated with Remote Access via CAT5 and via IP
- New SUN Solaris Rackmount Keyboard

Free ground shipping for all rackmount LCD KVM drawers



i-Tech Company (888) 483-2418 www.i-techcompany.com

#### **STORAGE**



#### EliteRAID ER104I - Expandable SATA to iSCSI

- Revolutionary 4 + 4 form factor.
- Expanding up to 8 drives with ES104T, MS4T and MS2T or other eSATA JBOD unit with eSATA connection
- Dual Gigabit LAN supporting MPIO, up to 200MB/s.
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- Simple setup via easily accessible web interface.
- Supports the latest 1TB hard drive.



Sans Digital (562) 949-1988 www.iscsinas.com

#### **STORAGE**



#### **R8 IP Series - Dual GbE iSCSI** 2U 8-Disk High Performance RAID Storage

ioStor™, the place for simple and secure storage solutions, introduces R8IP series, a RAID embedded network storage designed to meet small & medium businesses needs. Featuring 8 hot swappable SATA I/II HDD, supports RAID 0,1,3,5,6, JBOD and online storage management and comes with completely integrated service pack to ensure your investment



ioStor (909) 297-1698 www.iostor.com/R8IP

#### **NETWORKING & VPN**



#### **DS1M12 Stingray Multi-Function Instrument**

Powered from USB, Stingray needs no external power supply. Stingray combines the functions of Oscilloscope, Data Logger, Spectrum Analyser, Volt Meter, Frequency Meter, and Signal Generator in a single instrument. Stingray features simultaneous 12-bit sampling on both channels, a native sampling rate of 1MS/s (20MS/s repetitive signals), and sophisticated hardware triggering, including delayed time base pulse width.



EasySync (503) 547-0909 www.easysync-ltd.com

#### **NETWORKING & VPN**



#### **Barracuda Load Balancer**

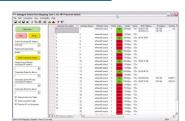
The Barracuda Load Balancer integrates server load balancing and network intrusion prevention into an affordable and easy-to-use network appliance. Ideal for data centers with:

- · Internet sites with high traffic requirements
- Hosted applications using thin-client architectures
- Other IP services requiring optimal performance



Barracuda Networks Inc. (888) 268-4772 www.barracuda.com

#### **NETWORKING & VPN**



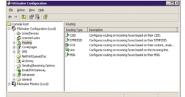
#### **Managed Switch Port Mapping Tool**

Windows software tool that communicates with a managed ethernet switch via SNMPv1/v2c and maps the physical port connections to MAC and IP addresses of the attached devices.



NorthWest Performance Software Inc. (866) 882-3389 www.nwpsw.com

#### Messaging & Telephony



#### **GFiFAX** maker

#### GFI FAXmaker for Exchange/SMTP

GFI FAXmaker is an award-winning fax server that makes sending and receiving faxes an efficient, simple and cheaper process. It allows users to receive and send faxes directly from their email client and integrates with existing messaging clients and customized solutions. GFI FAXmaker is reliable, offers excellent price-performance and an immediate return on



**GFI Software Ltd** (919) 379-3397 www.gfi.com

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## **Product** Releases

#### CLIENTS

■ Fujitsu Computer Systems introduced the LifeBook S7211 notebook. Weighing 5.2 pounds and priced starting at \$899, the LifeBook S7211 notebook is equipped with a 14-inch widescreen WXGA Crystal View display and an Intel Core 2 processor. The LifeBook S7211 notebook offers a variety of features generally not offered at the sub-\$900 price point, such as a modular bay that fits devices such as optical drives or an additional battery for up to 6.5 hours of computing time. Other features include a spill-resistant keyboard, integrated Web cam, and stereo microphones. This notebook also has Atheros Super AG 802.11a/ b/g WLAN connectivity.

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■ Lenovo has introduced its ThinkStation brand to the PC market with the S10 and D10 workstations. The S10 and D10 feature computer-aided design and engineering, digital content creation, oil and gas exploration, and electronic design automation—all parts of data- and graphics-intensive environments. The D10 workstations feature quad-core Intel Xeon 5400 series processors, while the S10 workstations offer Intel Core 2 processors, including the Core 2 Extreme QX9650. Both the S10 and the D10 will come preloaded with dual Gigabit Ethernet and multiple slots, bays, and USB ports for expandability.

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- Microsoft has released the Microsoft Search Server 2008 Express—a free download that incorporates new search features and security-enhanced abilities. Search Server Express has no preset document limits and is designed to let IT professionals go from download to search in just 30 minutes. Microsoft has added free connectors that index material from EMC's Documentum and IBM's FileNet, which are set to be available through Microsoft's search products early next year. Also, Microsoft has included new search capabilities based on the OpenSearch standard.
- Océ announced two new MFPs, the cm4521 and cm5520. Designed to offer a high level of security and ease of use, the devices offer print, scan, copy, and fax functions. The MFPs print in black and white at 45 or 55ppm and in color at 45ppm, and they can store 3,650 to 6,650 sheets. Other features of the devices include a large touchscreen, a Super G3 fax kit, and a Fiery print controller from EFI. The cm4521 and cm5520 have Ethernet interfaces for network connectivity and function in both Mac and PC environments.
- Oracle has announced Siebel CRM Mobile, a new way of delivering its CRM applications to BlackBerry users. Created in collaboration with RIM, the application is designed to provide secure and simple access to BlackBerry applications. The service is available to existing Siebel Wireless customers and operates on BlackBerry's MDS (Mobile Data System).
- Protech has announced a new PoS system, the PS8852. With a Celeron M Ultra-Low Voltage processor, the system is designed to be energy-efficient yet fast. Other features of the PS8852 include an exchangeable MSR (magnetic strip reader), integrated jumper settings, a 15-inch TFT LCD touchscreen monitor, SATA storage, and wireless capabilities. The PS8852 runs on Windows 98/2000/XP/XP Embedded, WEPOS, and Linux operating systems.
- Red Hat has announced the release of Red Hat Enterprise Linux 5.1, which includes built-in virtualization, as well as a

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new Linux Automation strategy. Red Hat says the virtualization features provide broader server support than proprietary virtualization products and up to double the performance. Additionally, Enterprise Linux 5.1 includes enhanced support for virtualization of Windows guests, leading to performance improvements for WinXP, Windows Server 2000 and 2003, and Windows 2008 beta guests. Enterprise Linux 5.1 is available at the Red Hat Network, which serves as the company's management and automation platform.

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■ Xerox announced the Xerox DocuColor 7000AP Digital Press, which offers the ability to select from three print operation modes on a job-by-job basis. An All Weights mode enables the press to run all stocks at 70ppm, regardless of media weight and type, and gives the output a matte appearance. The Single Weight mode varies the speed of the system based on stock weight and delivers a glossier look and feel. A third, Mixed Media mode, optimizes performance for unique jobs with mixed paper types from multiple trays. The DocuColor 7000AP offers 2,400 x 2,400dpi print resolution, and print providers are offered the choice of the Xerox FreeFlow Printer Server 6.0, the Xerox EX Color Server powered by EFI Fiery, or the Xerox CX Color Server powered by Creo. An Automated Color Quality suite will also be available for DocuColor 7000AP systems with FreeFlow Print Servers.

#### MESSAGING & TELEPHONY

- Jatheon Technologies is targeting companies that have 100 or fewer employees with its latest email archival appliance. In particular, Jatheon is targeting its new PnC (Plug n Comply) 100 SB at manufacturing operations, professional services firms, medical clinics, and small government agencies. The appliance handles e-discovery functionality, storage space management, internal policy management, and regulatory compliance. Jatheon designed PnC 100 SB to be easy to use so businesses can operate the appliance with little inhouse IT support. The offering also provides immediate email and IM archive access. The Jatheon PnC 100 SB is available for \$4,995.
- Oracle has released the latest iteration of its multichannel IP contact center solution, Oracle Contact Center Anywhere v8.1.1. Updates added to the new version are designed to include more accessibility, greater ease of use, and more monitoring options. Features of Oracle Contact Center Anywhere include high scalability and efficient customer view of voice, email, chat, fax, Web, and IVR (interactive voice response) channels.
- Sendmail has announced the release of Sentrion DKIM Signer, or Sentrion DS, the latest addition to the Sentrion email security appliance family. The Sentrion DS is a special-purpose email security appliance that offers protection from fraudulent email and phishing schemes out of the box via DKIM (Domain Keys Identified Mail), which was recently approved by the IETF (Internet Engineering Task Force) as an Email Authentication Internet Standard. Sentrion DS assists organizations that need to begin digitally signing email for protection quickly and easily. Sendmail's Sentrion MP appliance family and related software also contain DKIM support. Sentrion DS will be available in Q4.
- Teneros has announced the "V"elocity Series of application continuity appliances

## **Product** Releases

for Microsoft Exchange. This family of appliances uses virtualization technology to provide continuity protection for resources on Microsoft Exchange server, including mobile messaging, Active Directory, and data backup and restore. The "V"elocity series also increases the number of protected mailboxes from 50 to 2,000 and the storage capacity from 90GB to several terabytes. The appliance has a 64-bit virtual architecture that provides added plug-andgo continuity protection and integrates with Teneros' Hands-Free IT. Prices for the "V"elocity Series appliances range from \$7,000 to \$27,000.

#### **NETWORKING & VPN**

- Arastra announced the Arastra 7100 series switches and released the 7124S and 7148S to field trials in financial institutions and government laboratories. The family of data center Ethernet switches features Layer 2 and Layer 3 switching at wire speed. They offer multichassis fabric scalability of up to 4,096 10G ports and support 10Gb SFP (small form-factor pluggable) optics and cabling. Supported types include Gigabit Ethernet 1000BASE-SX/LX/T and 10GBASE-SR/LR/LRM/CR. The data center Ethernet switches also have hot-swappable redundant power supplies and cooling units, as well as redundant management ports. The switches offer 48 10GbE ports in a 1U chassis and support rack level densities of up to 2,016 10GbE ports per 42U rack. The 7124S has 24 10G SFP ports, and the 7148S has 48 10G SFP ports. They run the Arastra EOS (Extensible Operating System), which monitors and restarts processes. Arastra expects to make Arastra 7100 series units available in Q1 of next year.
- Aruba Networks launched several new products, including the Multi-Service Mobility Module, the MMC-3000 Multi-Service Mobility Controller platform, and the dual-radio AP-124 and AP-125 802.11n Access Points. The Multi-Service Mobility Module features a 32-core multithreaded network processor, dedicated cryptographic core processors, and a field-reprogrammable Aruba Mobility Controller chip for improved performance and configurability. The MMC-3000 family of controllers delivers up to 8Gbps of throughput and supports up to 2,048 users, 128 local access points, and 512 remote access points. The AP-124 and AP-125 802.11n Access Points include MIPS CPUs with hardware-accelerated cryptographic processing, 3x3 MIMO operation, dynamic frequency selection support, and automatic Powerover-Ethernet management.
- Cisco launched two new modular Catalyst switches, the Catalyst 6500 Series VSS (Virtual Switching System) 1440 and the Catalyst 4500 E-Series with CenterFlex technology. The VSS 1440 is capable of system bandwidth of up to 1.44Tbps (Terabits per second) and lets users manage multiple Cisco Catalyst 6500 Series Switches with a single UI, routing instance, and IP address. The Catalyst 4500 E-Series supports 320Gbps of bandwidth, expanded service capacity, and forward and backward compatibility with many platforms and products. The Cisco Catalyst 6500 Series Virtual Switching Supervisor Engine 720 10G With IP Services SW image and the Cisco Catalyst 6500 Series Virtual Switching Supervisor Engine 720 10G Chassis Bundles With IP BASE SW image are currently available for \$38,000 and \$31,500, respectively. The Cisco Catalyst 4500 E-Series products will be available later this month.

■ Digi International introduced the Multipoint XEB (XPress Ethernet Bridge) to wirelessly connect multiple Ethernet devices when Wi-Fi range is insufficient, when an Ethernet cable is impractical or too costly to install, or when resilient wireless connectivity is needed. The Multipoint XEB functions like a Wi-Fi network but uses the 900MHz frequency to communicate over a line-of-sight range of up to 15 miles. Additionally, the 900MHz band allows the Multipoint XEB to avoid interference with other Wi-Fi networks. The Multipoint XEB has an indoor range of 2,000 feet with the ability to transmit through up to 10 walls with a 1.5Mbps RF data rate. It also features an external DIP switch to allow up to 16 subscriber Multipoint XEBs on a single XEB access point.

■ Lancope announced StealthWatch System 5.7 to extend the capabilities of behavior-based anomaly detection and network performance monitoring for enterprise organizations. By incorporating the Behavioral Baselining Engine v2.0, StealthWatch delivers network detection of security problems and minimizes maintenance efforts. Other features include Quality of Service reporting; Autonomous System Reporting; StealthWatch ID-1000 to provide information about hosts; and Document Builder, which offers components to administrators to enable faster identification of problems. StealthWatch 5.7 will be available next month.

■ Lantronix has revealed the SecureLinx Branch Office Solution Kit, a solution designed for remote management of IT assets. Through the combination of the SecureLinx Branch Office Manager and SecureLinx Spider, system administrators can securely manage servers and IT infrastructure from anywhere over the Internet with a space-efficient, single-source tool. The Branch Office Solution Kit is suited for geographically distributed IT environments and offers a condensed, integrated remote management solution. The SecureLinx Branch Office Manager also combines a remote power manager and a built-in Ethernet switch into a 1U rack-mountable appliance.

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■ Oracle has released a new inventory management application, Oracle Communications Unified Inventory Management, designed to give communications service providers views of customer, service, and resource inventory in real time. Features of the application include financial control and compliance with Oracle E-Business Suite, service fulfillment with Oracle's Siebel CRM and Oracle Communications Service Activation, and network management with Oracle Communications Network Intelligence.

■ AppXML, **Radware's** new Web deployment service, is a security- and performance-driven platform that provides customers with high-performance XML and Web service communication. To increase performance acceleration, AppXML offloads XML processing from servers, accelerates SSL transport for Web services, and provides control on invocations per second to manage SLAs with bandwidth management. For enhanced security purposes, AppXML protects from both nondeliberate and malicious attacks with authentication and authorization controls, as well as delivering further security to accommodate growing capacity requirements. AppXML enables faster integration with Web services with protocol-mixing of XML and non-XML traffic and speeds implementation with minimal disruption to application services.

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- 460+460 watts Output Power
- 1+1 Redundant Configuration
- PSII Mini Redundant Power

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• 550+550 watts Output Power

#### Support to Dual Nocona Processors

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- Meet 2U Rackmount System

## N+1 4U Redundant EFRP-4463G



- 1200W+460W Output Power
- N+1 Redundant Configuration
- Meet 4U Rackmount System

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## **Product** Releases

Continued from Page 17

- Silver Peak has announced features that prevent packet-delivery problems such as packet loss, out-of-order packets, and flow restrictions in high-capacity WAN links. Silver Peak's Network Memory technology ensures that duplicate content is not transferred across the WAN. Its technologies include Dynamic FEC, which uses FEC packets to restore lost packets in real time. Silver Peak's products can also reduce data loss on WAN links of up to 500Mbps and provide POC, as well as network and traffic statistics.
- Tellabs has announced enhancements to its Tellabs 8800 MSR (multiservice router). Part of Tellabs' AssuredEthernetSM, the 8800 MSR provides Ethernet and TDM to both legacy and new networks. With Tellabs 8800 MSR's SAToP (Structure-Agnostic TDM over Packet) technology, companies can provide traditional services such as TDM, Frame Relay, and ATM over Ethernet. The MSR also includes Feature Package 7.1 for ML-PPP and GFP for supporting Ethernet traffic over copper and SONET networks.

#### PHYSICAL INFRASTRUCTURE

■ Panduit announced its 4 Post Rack System, which has a floor footprint within 24 x 24 inches. The 23-inch-deep rack system offers open rack flexibility and cabinet stability. It has adjustable front and rear mounting rails and paint-piercing washers that bond rack components for easy grounding. Panduit touts the 4 Post Rack System as a good fit for situations in which customers are designing data center layouts.

to monitor environmental alarms, intrusion

detection, relay contact closures, and equipment failure over the Ethernet. Twelve different models allow IOLAN I/O Device Servers to be used in a variety of applications such as Building Automation/HVAC, Retail Automation, Secure Industrial and Utility Automation, and Telecommunications for security access, environmental sensors, lighting, temperatures, and others that require remote monitoring and managing.

■ Perle Systems launched its IOLAN I/O

Device Server, which allows IT managers

■ Tripp Lite released a line of power strips that boast GFCI plugs for automotive, factory, and industrial settings. The Safety Series Power Strips family includes the TLM825GF, TLM812GF, and TLM609GF. According to Tripp Lite, the power strips offer reliable power distribution and meet OSHA guidelines with a yellow safety color. And thanks to the GFCI plug, they offer extra safety in wet environments. The strips offer up to eight outlets and have transformer outlets that let users attach multiple transformers. The grounded power cords, which are up to 25 feet long, have an integrated cord clip. The strips also have rugged metal cases and lighted On/Off switches. Users can mount the strips to walls or desks, thanks

#### SECURITY

to keyhole slots.

**■ Crossbeam Systems and Trend Micro** announced the NGCG (Next Generation Content Gateway), a solution to protect large networks from Web threats. The NGCG offers an integrated multilayer

approach to protect the network from Web- and Internet-based attacks. The Crossbeam/Trend Micro solution applies URL filtering, malware scanning, reputation services, and botnet protection. To effectively monitor Web threats, the NGCG works in the network between the Internet and the enterprise's internal network, as well as between security domains within the enterprise. The NGCG provides automated detection, prevention, and remediation of Web-based attacks without user intervention. Designed for large enterprises, customers can scale the NGCG to fit the appropriate level of Web threat protection.

■ Entrust released Entrust IdentityGuard 9.0, which includes authentication capabilities for risk-based authentication based on IP-geolocation and the ability to leverage data delivered through the Entrust Open Fraud Intelligence Network. Entrust IdentityGuard is an open authentication platform that enables organizations to layer security across users and applications. The authentication options in version 9.0 include username and password, IP-geolocation, machine/device, questions and answers, out-of-band one-time passcode (delivered via voice, SMS, or email), grid cards, and a range of one-time password tokens. The platform's new risk-based authentication capability enables organizations to assess a level of risk to a transaction based on the IP address and then decide to further authenticate the user if required. Entrust IdentityGuard can also provide risk-based authentication using IPgeolocation authentication for remote

access environments.

■ F5 Networks announced a version of its BIG-IP ASM (Application Security Manager) that uses the plug-in architecture of TMOS with F5's application delivery tools to offer an increased level of integration for applications. BIG-IP ASM now offers security capabilities that enable both network and security architects to manage multiple layers of application security environments. The TMOS functionality added to the BIG-IP ASM includes compression, caching, rate shaping, SSL offload, TCP content manipulation, and TCP Express. The Real Traffic Policy Builder integrated with the BIG-IP ASM creates, maintains, and updates security policies by parsing requests and responses. BIG-IP ASM delivers out-of-the-box protection for industrystandard applications, including Microsoft SharePoint, Outlook Web Access, SAP NetWeaver, and Lotus Domino, to avoid the burden of manual configuration.

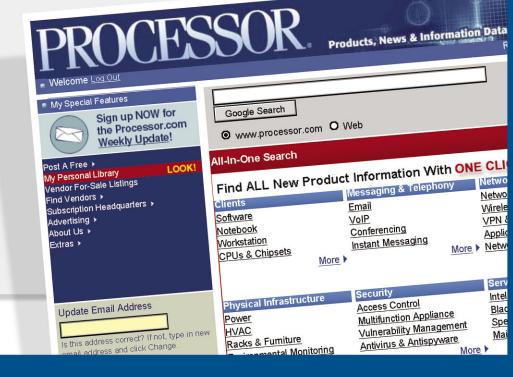
■ Trend Micro has announced a version of its mobile security software, Trend Micro Mobile Security 5.0, which will be available next month. The company says TMMS (Trend Micro Mobile Security) contains data encryption and authentication features, mitigating such mobile security issues as breaches in security and data loss while also letting system admins handle security for mobile devices from a single console. TMMS uses OfficeScan Client/Server Edition 8.0 console to manage mobile protection issues. The console also manages midsized business and enterprise PC and server security. Users can manage mobile devices, desktops, and enterprise servers from the one console. TMMS supports Windows Mobile

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- 4. Browse the list and read the brief descriptions to find what you need, then click the link to see the complete article.



## **Product** Releases

Continued from Page 18

5.0/Mobile 6.0 (Standard Edition)/Mobile 5.0 (Pocket PC)/Mobile 6.0 (Classic and Professional) and Symbian S60/3rd Edition (Nokia E-Series). TMMS starts at \$35 per device, and TMMS 5.0 Advanced starts at \$70 per device.

#### **S**ERVERS

- BlueArc introduced an enhanced version of its Titan servers that now support ultra-dense SATA arrays. The newly equipped Titans are capable of supporting up to 36TB per each 4U rack-mountable shelf or up to 400TB in a 42U system. The upgraded servers also support scaling to 2PB of storage per namespace and increased clustering support to eight nodes. BlueArc also announced the SA-48 RAID Array dual RAID controllers, which will support 48 drives in a 4U system, scalability to 10 systems within a single rack, and capacity for 64-bit SCSI addressing. The Titan enhancements are available now, but the SA-48 RAID Array dual RAID controllers will not be available until next month.
- HP released updated versions of its data center-targeted Integrity and Integrity NonStop servers, which now support Intel Itanium 9100 processors. The servers are capable of delivering up to a 20% increase in performance compared to servers running previous-generation Itanium processors. HP also announced that its remote management offering, HP Integrity iLO2 (Integrated Lights-Out 2), now supports HP Integrity cell-based servers in addition to previously supported platforms including BladeSystem, ProLiant, and entry-level Integrity servers.

Users of both ProLiant and Integrity servers will appreciate iLO2's standardized user interface. HP Integrity servers also gained support for HP's Insight Power Manager tools, which let IT support staff monitor and manage server power consumption.

. . . . .

■ Supermicro has announced the Super-Blade SBA-7141M-T, a blade server that features quad-core AMD Opteron processors and supports 960 processor cores and 3.84TB of memory in each 42U rack. The blade server supports both Opteron 8300 and 8200 Series processors (at all speeds). Networking options include Gigabit Ethernet switch modules, Gigabit Ethernet pass-thru modules, and 4x DDR (20Gbps) InfiniBand switch modules. The SBA-7141M-T has a high-bandwidth backplane and no active components. One CMM is a standard feature of the SuperBlade SBA-7141M-T, but the blade server supports a second CMM.

#### STORAGE

■ Fujifilm announced the Fujifilm Tape Tracker, a unique, high-performance data asset management solution that improves the security and shipping of data tape media. Fujifilm worked with QinetiQ to create a GPS system housed in a standard half-inch data tape cartridge. The resulting device closely resembles a standard data tape but, when included in a tape media case, for example, allows data managers to monitor important data assets in real time or locates misplaced or stolen tapes instantly. Fujifilm Tape Tracker utilizes a secure, Web-based tracking software application called FujiFind for managing one or several data tape shipments simultaneously from any PC. The Fujifilm Tape Tracker is up to 1,000 times more sensitive than conventional GPS receivers are, so users can track inventory through rural areas, cities, within transport vehicles, and even inside warehouse locations. The Fujifilm Tape Tracker is in beta tests in several markets and is scheduled for availability in the first quarter of next year.

■ Intel announced a storage platform to ease the management of growing digital information. The flexible, easy-to-use Intel Entry Storage System SS4200x will be available in two models: the Intel Entry Storage System SS4200-EHW, a hardware-only version, and the Intel Entry Storage System SS4200-E, which comes with integrated software. Based on the Intel Celeron 400 Series processor with DDR2 memory, the Intel Entry Storage System SS4200x provides performance and functionality to accommodate demanding workloads and features an Intel 945GZ with ICH7-R chipset for better I/O performance. The fully loaded Intel SS4200-E includes software from EMC to create a flexible NAS appliance. The hardware-only version, Intel Entry Storage System SS4200-EHW, allows for customizable solutions with varying storage capacities up to several terabytes of capacity. The Intel Entry Storage Systems will be available next month.

■ LeftHand Networks has announced the NSM 4150 and NSM 2060, the first in a series of storage platforms to be released over the next few months from Left-Hand Networks. The NSM 4150 and NSM 2060 present high data availability and performance along with data replication

. . . . .

technology in the SAN/iQ clustered storage software. Enterprise and SME customers can activate these capabilities whenever needed through the SAN solutions. The NSM 4150 decreases costs and complexities associated with today's networked storage offerings, while the NSM 2060 provides a SAN to those looking to activate high availability for virtualized server environments or to move away from isolated DAS storage.

. . . . .

■ Moonwalk has announced the Moonwalk 6.0 Universal FAN for the management and migration of files across a company's storage network. With this FAN, it is possible to access files regardless of where they are physically located. In addition, files are accessible through any storage platform or OS. Moonwalk 6.0 provides the resources to create, use, and modify centrally managed rules and policies. This product lets companies control the backup, movement, copying, and migration of files. Moonwalk 6.0 is priced starting at \$4,000 per node.

• • • • •

■ National Instruments announced the release of rackmount controllers based on the Intel Core 2 Duo and Core 2 Quad processors, the NI 8352 and NI 8353. These high-performance, multicore-based server-class controllers are designed for use in PXI or PXI Express systems. The processors can simultaneously execute multiple computing tasks on separate CPU cores. The controllers work with a variety of RAID storage configurations that define data storage schemes to multiple hard drives. The NI 8352 and NI 8353 have up to four 250GB hard drives with a maximum capacity of 1TB.



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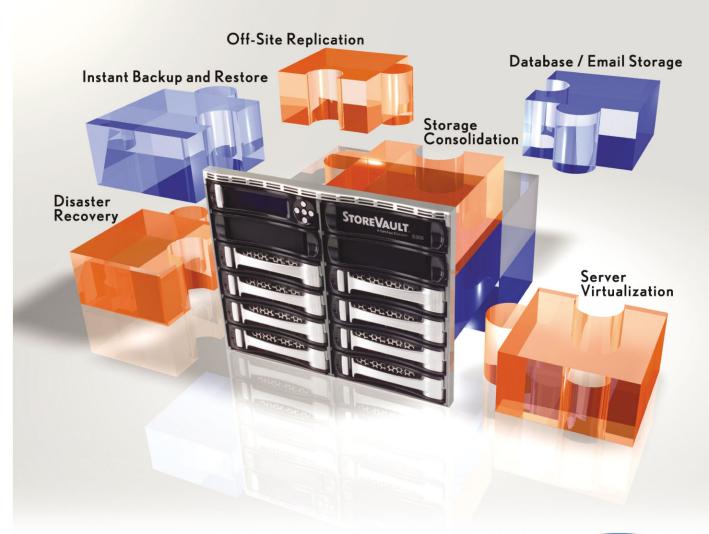
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#### **OPINIONS**

## **Is Visual Basic .NET Really Dead?**

As some of you know, I sing in the St. Jude Sanctuary (traditional) choir. At the annual choir concert, we performed our version of "Spamalot's" "Not Dead Yet!" (see www.youtube.com/watch?v= MqfIEfdzekw; I played Lancelot). While rehearsing this piece, the players (some of whom work in the IT industry) wondered if I should dedicate the piece to Visual Basic. Perhaps I should have.

Over the past month, a number of disquieting reports have reached my inbox. We hear some companies have chosen to specifically exclude Visual Basic developers from their hiring lists; while they want more C# developers, their interest in Visual Basic .NET is waning. I find this particularly frustrating.

Many years ago when Microsoft was preparing to release its first version of Visual Basic .NET (VB7), I rose to the podium at VSLive! in San Francisco and gave my infamous keynote speech. I felt it was a fundamental mistake to keep the word "basic" in the name as it implied that Visual Basic .NET carried all of the baggage of the six previous versions of Visual Basic and the five or so versions of BASIC that preceded VB1, some of which Bill Gates wrote in the '70s.

While Visual Basic .NET had a real-time interactive compiler and would eventually have edit-and-continue (as it does now), it was neither "Visual Basic" as VB6 developers know it nor was it "BASIC" by any stretch of the imagination. I suggested that Microsoft call the language anything else; "Visual Fred" would have been better.

#### Visual Basic .NET: A First-Class .NET CLR Language

Consider that Visual Basic .NET is deadly serious, start-from-scratch .NET CLR language. While it shares some of the same operators such as "Dim" and "Do While" from earlier versions, these operators don't work as they did in VB6 or any previous version of BASIC. For example, consider the statement: Dim x, y, z as Integer.

In VB6, this code generates nothing. But when the first reference was made to these variables, x and y are instantiated and treated as *Variants* and *z* as an Integer. In Visual Basic .NET, the same code instantiates three Integers. In VB6, a Dim statement has no concept of a *Constructor*, but in Visual Basic .NET, constructors are commonplace, which makes the Dim statement subject to failure, so it needs to be coded inside an exception handler. In VB6, a variable declared with a Dim statement is scoped to

the parent, but in Visual Basic .NET, it's scoped to the location—inside the IF, Try, or other scope boundary. Need I go on?

I think you'll find that virtually every operator in Visual Basic .NET is different

when compared to VB6. The only thing that the two languages share in common is the word "Basic" and the fonts.

#### Rumor vs. Reality

So why don't developers or decision makers choose Visual Basic .NET when it comes to building new code? We see a litany of excuses, some of which make sense, but others have little foundation in reality.

Visual Basic .NET is slower than C#. While Visual Basic .NET can compile to the same intermediate language, to get the same performance, you have to turn off some of the "safety" features, such as integer divide overflow checks that are added automatically to Visual Basic .NET code and that are not enabled in C#. In reality, we've found that Visual Basic development

William (Bill) Vaughn is an industry-recog-

nized author, mentor, trainer, and subject-mat-

ter expert on Visual Studio, SQL Server, and

wrote the best-selling "Hitchhiker's Guide to SQL

Server 2000 Reporting Services." Visit his Web

supported in Visual Basic .NET. Yes, there are some relatively obscure operators that C# requires that Visual Basic .NET does not support. I have yet to hear from a developer that this issue had any impact on development or implementation. In reality, there are a number of features such as Dim WithEvents, My functionality, and many others that are only available in Visual Basic .NET. These features make coding easier and less trouble-prone.

There are features in C# that are not

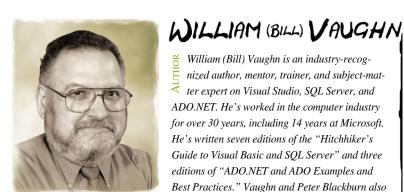
C# developers are smarter or more experienced. Ah, I get the same number of "challenged" data access questions from C# developers as from Visual Basic .NET developers. In reality, Visual Basic ease of use has lowered the bar to developers so far that more men and women can write code with-

> out formal computer science training, but these inexperienced "paradevelopers" do not necessarily reflect the population as a whole. A lot of very complex and well-written code was written in VB6 despite its shortcomings, and at least as much serious code is being written in Visual Basic .NET by developers with degrees in CS and some without.

> Those making executive decisions about a language and the developers who use it need to think twice before discounting Visual Basic

.NET. They just might be overlooking a valuable resource.

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is actually faster. Studies show that projects written with Visual Basic .NET can be designed, prototyped, and debugged more quickly than in C#, even without "edit and continue."

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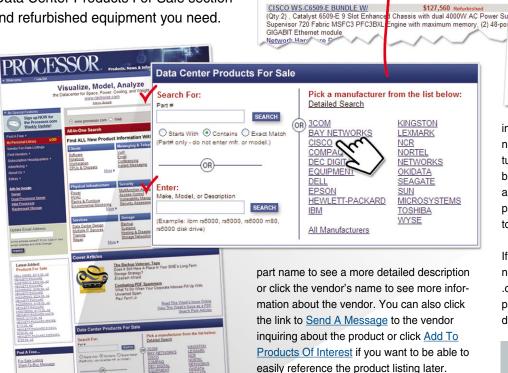
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#### PRODUCT OF THE WEEK

# Constant Uptime With Link Load Balancing

# Elfiq Tools Monitor Link Saturation & Failures, Manage Traffic

 $by \ Sue \ Hildreth$ 

How DO YOU KEEP a handful of Internet power users from hogging bandwidth and slowing the Internet performance for the rest of the company to a crawl? One solution is to purchase way more bandwidth than you could possibly need. The other, more cost-effective approach is to invest in

Link load balancing devices distribute Internet traffic—usually by session or protocol type—across multiple Internet connections, be they DSL, cable, Fibre, wireless, or any other IP traffic conduit. That enables an organization to assemble a larger Internet pipe using many smaller ones.

a link load balancer.

Unlike routers, which provide simple failover from one Internet connection to a second one, a link load balancer can do



PRODUCT OF THE WEEK

#### ELFIQ NETWORKS LINK LB-1500E & LINK LB-4000E

**Description:** Provide redundant Internet connectivity by balancing traffic across multiple Internet connections from different providers; monitor link saturation and failures in real time and redirect traffic as needed

**Interesting fact:** The LB E-Series of link load balancers supports any kind of link and speed, including asynchronous and wire speed.

(888) 463-5347 www.elfiq.com failover and also provide ongoing consistency and reliability in Internet performance by routing the outgoing traffic to the most available, least used Internet connections. The goal is to prevent slow Internet performance, as well as minimize downtime.

"If there's half a day where the Internet is not available, and external services like CRM or sales automation is not available, it will cost the organization in revenue," says Jean Pascal Hebert, vice president of business development for Elfiq Networks (866/633-1227; www.elfiq.com), a Montreal-based maker of link load balancers. "The goal of using an Elfiq box is to bring performance and redundancy to your communications infrastructure," explains Hebert.

#### **Product Lineup**

Elfiq's line of link load balancing products starts with the Link LB-500 SMB and Link LB-1000 Branch models, which support two and four links, respectively, and up to 20 and 45Mbps throughput. The Link LB-2000 Advanced has four ports, as well as two virtual balancers with 16 links each, and can handle up to 90Mbps throughput. The Link LB-3000 Enterprise features four Gigabit ports and eight 10/1000Mbps ports and two or five virtual balancers with 32 links each and can go up to 500Mbps.

In September, Elfiq released its latest load balancing appliances, the LB-1500E and LB-4000E, the first two products of Elfiq's E Series line. The LB-1500E is a rackmounted, entry-level load balancer that supports up to eight links and 75Mbps of throughput. The LB-4000E has eight Gigabit ports and two SFP fiber connectors. Both rely on sophisticated algorithms and real-time metrics, such as response time, to make routing decisions. IT managers can administer the Elfiq load balancers through either a command-line interface or through the Elfiq Explorer, a graphical user interface.

The Elfiq LB-2000 and higher models provide the ability to balance Internet loads across different geographic locations, so if one site suffers a major Internet outage, it can send traffic over the company WAN to another office and then out its

Internet connections. It uses the NATTP (network address translation transfer protocol), an Elfiq protocol that can encapsulate valid traffic and modify its original path. NATTP is preferable to NAT, according to the company, because it removes any security risks associated with passing public traffic on private links by encapsulating the traffic so that only another Link LB unit can retrieve the data.

"If you've got multiple remote sites, the GeoLink [feature] will decide which site should handle the load. So if the connectivity is down in Boston, for instance, it will move the traffic to New York," explains Hebert,

Link load balancing across many Internet points can help prevent the latter problem of VPNs taking up all of the bandwidth.

To protect the VPNs themselves from downed or over-saturated Internet links, Elfiq has developed a VPN load balancing technology called SitePathMTPX. The SitePath technology employs encrypted communication between two Elfiq balancers, on either side of the VPN connection, to monitor bandwidth and reroute the VPN if needed. A special benefit of SitePath, according to Elfiq, is that it does not require a renegotiation of the VPN tunnel.

#### The Financial Bottom Line

Besides improving Internet performance and providing redundancy in case of a link failure, link load balancing can save an organization money on its Internet bills, as well, according to Warner. With a good link load balancer, it's possible to turn several inexpensive Internet connections into the equivalent of a high-bandwidth, high-cost Internet pipeline. "In some hotels, we've



noting that it can be used to help both internal users accessing the Internet and remote users trying to access internal resources.

#### **Need For Speed**

The need for link load balancing products has risen thanks to the skyrocketing demands placed on Internet bandwidth by high-resolution graphics files, video downloads, and Internet telephony and Webcasting.

Trevor Warner, president of the Warner Consulting Group in Columbus, Ohio, an IT consulting company for the hotel industry, notes that bandwidth needs today are vastly greater than they were just a few years ago. "Ten, even five, years ago a T1 line could support 500 users," says Warner. "Now something like three users on YouTube can bring down a T1 circuit. Even though bandwidth has gotten cheaper, our needs have far exceeded the cost reduction in bandwidth."

Even VPNs can get overwhelmed by all the multimedia files, Internet telephony, and Webcasts clogging the Internet. In turn, VPN users can overwhelm a single Internet link.

put together the equivalent of a 16.5Mbps Internet connection for \$600 a month, which is really unheard of," says Warner.

Link load balancers range in price from \$2,000 to \$15,000, based on the number of links and the amount and types of traffic you have, says Warner. For example, the Elfiq LB-1500E, with eight links, costs \$4,995.

Regardless of the price, Warner believes it's well worth the investment, given the high cost of lost business and productivity that almost always occurs when a company loses Internet connectivity. For instance, Internet connectivity and Wi-Fi availability is one of the amenities hotels use to attract customers. "If people can't send email, they check out. So redundancy plays a huge role in the marketplace," he notes.

Warner says, "[With link load balancing,] if one of the connections goes down, the users don't really know the difference. They're still sending and receiving emails while IT is working to bring that connection back up."

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# Spread & Keep Operational Knowledge

#### What Strategies Should You Implement To Maintain IT Know-How?

by Curt Harler

A RECENT STUDY by Monster.com shows that one in three companies expects at least 20% of its workforce to be eligible for retirement in the next 10 years. However, only 20% of companies surveyed have formal strategies designed to manage and retain organizational knowledge.

The U.S. Bureau of Labor Statistics says American workers will continue to age,

### **Checklist To Manage** Knowledge

- Explain the need to get a knowledge reten-
- tion project rolling
- Communicate early and often
- Demonstrate support from the highest corporate levels
- Provide examples of what and how knowledge is documented
- Avoid letting the process become an "unfunded mandate"
- Revisit the final continuity plan regularly

with the annual growth rate of the 55-andolder group projected to be 4.1%—four times the rate of growth of the overall labor force. The 25- to 54-year-old age group annual growth rate will be 0.3%, and that of 16- to 24-year-olds will be essentially flat.

That spells trouble, both for business continuity and efficiency of operations. Experience in the data room cannot be replaced easily. Lost lore means that a new employee, no matter how willing to work hard, must reinvent the wheel to recognize and solve problems that older workers might have solved multiple times before. But as baby boom workers leave the workforce (the first baby boomer filed for Social Security in October), new workers will be left groping in the dark unless a company comes up with a defined way to transfer organizational knowledge.

#### **Corporate Knowledge Base**

"Like succession planning, there is a need to retain knowledge so the organization can succeed no matter who is involved," says Jim Lanzalotto, vice president for Yoh (www.yoh.com), a business unit of Philadelphia-based Day & Zimmermann that offers consulting, staffing services, and outsourcing solutions. The problem, he says, is that building a corporate knowledge base is not a top-of-mind issue. Every SME has fires to put out. The assumption appears to be that all key employees will show up for work on Monday morning healthy, happy with their boss, and prepared to train a cadre of new workers.

One of the typical solutions for SMEs is to use CRM technologies to retain information about business partners, customers, and processes. "This is just technology, though," Lanzalotto says. "There also needs to be an enterprise-wide strategy for gathering and retaining this information. The CRM or knowledge repository is where that information should reside."

The place to start creating strategies to keep that knowledge within the organization once an employee leaves or retires is in the executive offices. "Start at the top and have senior-level buy-in," Lanzalotto says. "Then have the CEO be the first one to use this info. It rolls downhill from there."

While top management should demonstrate support, communications should not be hierarchical but should come from relevant

department managers. As with any change management, give workers reasons why the program was implemented and tell what it will mean for the organization and for them.

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Lanzalotto says the best way to do job documentation is by function. He says that the project rollout should also be done by job function. He recommends starting with a pilot group for launch of the program and building from there. Any program has to go beyond the "bibles" that are prepared for operational use. The program must become part of the company culture. To keep an operational knowledge plan up-to-date, the goal has to remain fixed. "Never change the objective and keep driving incessantly towards that goal," Lanzalotto says.

#### Help & Resistance

Do not overlook former employees, especially retirees, as a source of knowledge. Depending on a company's rules, it can often hire back retirees for six weeks to help with the process. Their knowledge is invaluable, especially if there are many new workers in a department. "Bringing back retirees is a smart way to do business," Lanzalotto

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#### **Birth Rate Trends Affect Labor Force Growth**

According to the U.S. Bureau of Labor Statistics, between 1946 and 1964, the U.S. fertility rate skyrocketed. World War II was over, and soldiers and their spouses wanted families. In that period, 78 million people were born. Called "baby boomers," these people are between ages 43 and 61 today and will be between 50 and 68 in 2014.

However, between 1965 and 1976, the number of births decreased. The population born during this time, called the "baby bust," will constitute part of the prime-aged worker group

controllers for SATA and SAS

drives on the market today.

of 25- to 54-year-olds from 2004 to 2014. The baby-bust population is much smaller than the baby-boom population. The difference in the number of boomers and busters will mean a drop in the growth of the labor force during those years.

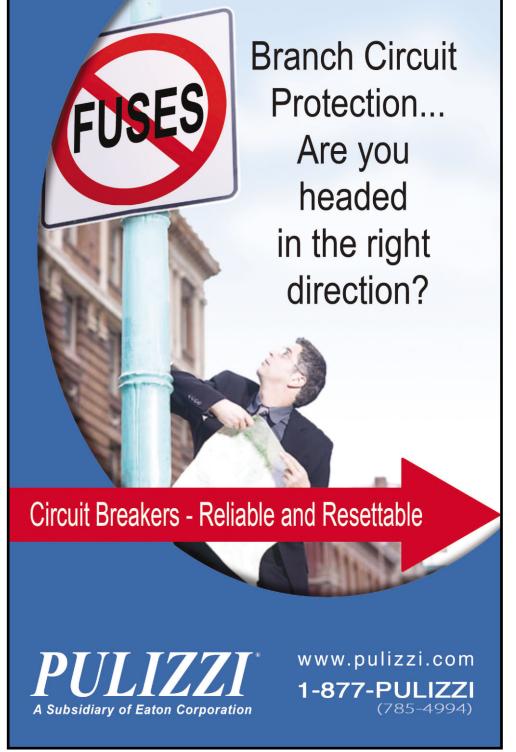
It is not over yet. Listen for the "baby-boom echo"-children born to the baby-boom generation between 1976 and 2000. A part of this group already is in the labor force today (and has been for a few years) and will be in the prime-aged workforce by 2014.

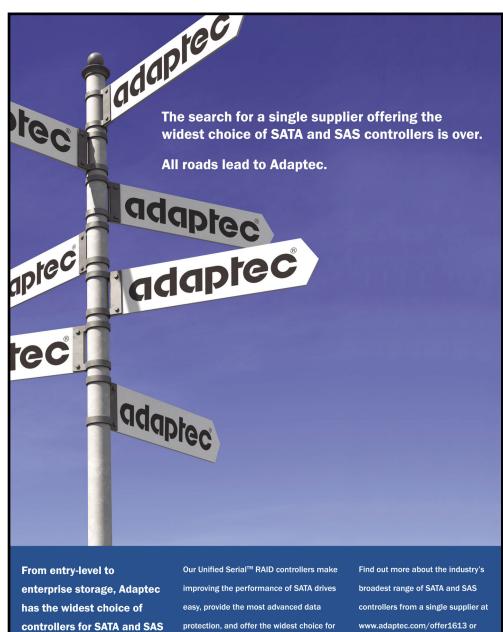
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## PRODUCTS AT WORK

# Network Storage Swiss Army Knife

# The Covell Group Trusts StoreVault For Fast & Reliable Storage Management

by Timothy Warner

**SIMPLIFIED, CENTRALIZED** access to shared hard disk resources is a recognized requirement in today's data-hungry SME environment. Accordingly, the decision to deploy a NAS (network-attached storage) or SAN (storage-area network) appliance to meet this need is on the mind of perhaps the majority of IT managers.

Daniel Covell is no exception to this idea. Covell is the owner of The Covell Group (www.covellgroup.com), an IT outsourcing firm located in San Diego. The Covell Group caters to the SME market, providing personalized, end-to-end support for all its clients' network infrastructure needs.

Specifically in terms of network data storage requirements, The Covell Group recommends the StoreVault S500 appliance to its clients. Moreover, Covell personally handles the procurement, installation, and management of the product for his customers.

#### What Is StoreVault?

StoreVault is the name of both a business division and a flagship storage-management appliance. StoreVault is an organizational branch of Network Appliance (www netapp.com), a world leader in unified disk storage solutions and considered by Fortune magazine to be one of the 100 best companies to work for in 2007.

The StoreVault S500 can be thought of as what its creator calls a "storage pocket knife." This multitool pocket knife metaphor illustrates the impressive and varied capabilities inherent in the device. The StoreVault S500 is a 12-bay, 2U rackmounted appliance that boasts the following features.

Consolidated storage. The StoreVault S500 offers both iSCSI- and Fibre Channel-based SAN configurations, as well as Ethernet-based NAS implementations. The appliance's 12 hot-swappable trays accept SCSI disks ranging in capacity from 250 to 500GB each. File resources can be shared transparently to Microsoft Windows-, Apple Mac OS X-, and Linux/Unix-based clients.

**Backup and restore.** NetApp Snap-Restore technology allows for point-in-time data backups and restores with a virtually

nonexistent backup window. The Store-Vault S500 integrates with most of the major enterprise backup solutions, including BakBone NetVault, CommVault Galaxy, and Tivoli Storage Manager.

**Data protection.** NetApp developed a proprietary RAID technology named RAID-DP that provides recovery from a concurrent two-drive failure in the array. StoreVault Replication supports scheduled file- or block-based data replication to another onsite or offsite location.

**Server virtualization.** Because NetApp is a VMware Technology Alliance Partner, the StoreVault S500 offers optimized support for server virtualization by using VMware ESX Server 3.0 and the VMware Virtual Infrastructure.

Application server storage. StoreVault's proprietary Write Anywhere File Layout, aka WAFL, file system provides flexible, reliable, high-performance data storage for enterprise client/server applications. The StoreVault S500 storage platform is an excellent choice for hosting Microsoft Exchange information stores, Microsoft SQL Server database instances, or ERP databases.

#### Why StoreVault?

"My customers are all small and mediumsized businesses, so larger SANs are priced out of reach for most of them," Covell notes. "The StoreVault S500 provides lots of technology at a very competitive price point for my customers." In addition to supporting a customer with a StoreVault S500, Covell personally utilizes a StoreVault S300.

Covell notes that StoreVault products strike a reasonable balance between price and performance. "I needed a storage system with high availability and iSCSI connectivity with a price point that was within my budget. Fibre Channel was way too expensive, and NAS did not provide me with the ability of having more than one connection to a single storage point."

For Covell, what tipped the balance in StoreVault's favor is the product's native support for server virtualization. Says Covell: "VMware recently added iSCSI support to their product, and this technology has worked very well for me."

Covell cites pragmatism as his driving force for why he selected the StoreVault S500 appliance over its competitors. "I looked at lower-end NetApp products, Dell Windows Storage Server 2003-based appliances, and EMC devices. The StoreVault S500 was able to provide everything I needed without the huge price tag."

Under the hood, the StoreVault S500 features a proprietary Linux-based operating system named Data ONTAP StoreVault Edition. All appliance management tasks are performed by using the StoreVault Manager GUI administration tool.

Covell considered the appliance's operating system in his selection of StoreVault products. "Network storage appliances running Windows Storage Server 2003 were a

# STORE VAULT

close second choice for me, but it did not provide me with the robustness of the integrated Data ONTAP OS that is specifically tailored to the StoreVault file system," he notes.

#### **Implementation Details**

Covell spoke highly of the overall ease of use of the StoreVault S500: "When I received the StoreVault S500 unit, it was unpacked and set up in about 20 minutes. The StoreVault Manager software identified the unit, and its wizard allowed me to set IP addresses and then configure other Network File System (NFS) and Common Internet File System (CIFS) options. Once the wizard was completed, I was able to connect to the CIFS immediately and use it just like it was a traditional Windows file server."

In today's IT world, server virtualization has taken on a robust currency. Many SMEs are saving themselves both server hardware as well as budgetary funds by virtualizing multiple server instances into a single hardware appliance by using software such as VMware and Microsoft Virtual Server.

"Configuring VMware support on the StoreVault appliance was a bit more work, as the iSCSI technology was still very new to me," Covell explains. "Once I had all the iSCSI settings and permissions set up properly, VMware was able to recognize the Logical Unit Numbers (LUNs) that I had created for it."

Covell is optimistic regarding an IT manager's ability to get started quickly with the StoreVault S500. "I will not say that the StoreVault S500 can be set up by anyone. However, an individual with basic networking and server skills will have no problem integrating a StoreVault S500 into their environment," he says.

#### Day-To-Day Use

"The StoreVault is a great product for any small to medium network for storing large amounts of data where high availability is needed, as well as features such as CIFS, iSCSI, and NFS connectivity," Covell notes.

The StoreVault S500 supports raw storage capabilities from 1 to 6TB in a variety of RAID configurations. Hot-swappable SCSI hard drives provide for administrative flexibility and make disaster recovery possible.

Covell explains, "The product has worked as planned. I originally purchased only eight drives and upgraded to 12 within about three months to add more space and to spread the write-processing load across the disk array."

When asked about the day-to-day performance of the StoreVault appliance, Covell appears satisfied. "The iSCSI throughput has been quite sufficient at over 400Mbps sustained; there is more than adequate bandwidth that has no problem keeping up with the drives."

Technical support can often make or break a company's viability in the IT marketplace. The good news is that, as far as Covell is concerned, the StoreVault customer support team passes this test with flying colors.

"I did need support on a few issues, one being my lack of iSCSI knowledge. The StoreVault technicians were able to assist me the same day," Covell says. "I used their support through email but did end up dealing with the same individual for both support incidents over the phone."

All things considered, Covell feels that StoreVault products are a great fit for many of his SME clients. "My customers are very happy. Because of its reliability and ease of setup, the StoreVault S500 makes me look good, and the technology works."

#### Store Vault S500

An all-in-one storage appliance that natively supports NAS, SAN, and DAS architectures

"The StoreVault S500 from NetApp was able to provide everything I needed without the huge price tag," says Dan Covell, owner of The Covell Group.

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# Server OS **Security Best Practices**

#### **Your SME Environment, Business Drivers** & Security Management All Play A Role

by Will Kelly

ACCORDING TO Forrester Research, security managers are at their wits' ends trying to keep their servers secure from the deluge of new vulnerabilities across all operating systems. Properly securing your server operating system doesn't stop or start at the server; rather, it requires a holistic approach that encompasses your IT infrastructure and your small to midsized enterprise's business drivers.

#### **Know Your Environment**

Bob Gaines, technical marketing manager for All Covered (www.allcovered.com), a Redwood Shores, Calif., consultancy

focused on SMEs, advises a holistic approach to securing your server operating systems. He sees every environment as different and resists the view that there are best practices that apply across the board when it comes to server OS security. However, Gaines and All Covered's consultants espouse that it's important to assess the entire environment of your SME and determine your assets, risks, infrastructure strengths, weak points, intrusion prevention, and general risk management.

Another point to consider when analyzing your environment is to determine the availability needs of your SME. "How long can your organization be down if your servers are not available?" asks Gaines.

#### **Develop A Patch Management Strategy**

"Patch management is 99% of the battle," says Gaines. He advises that you automate your patch management where and when possible using tools such as Microsoft's Windows Server Update Services (www.microsoft.com).

Your patch management strategy needs to take into account the size of your IT staff. While an aggressive patching strategy may be appealing, it comes with support costs, especially when it comes to patching your servers. If you are running with a small IT staff, you may want to test new patches before applying them to your servers.

#### **Apply Standard Management Practices**

"The first thing data center/IT managers at small to midsized enterprises need to do is document processes and procedures for maintenance and security of their organizations' servers, particularly for patch Tuesdays," says John Ewing, network security specialist and CISSP in CDW's professional services team (www .cdw.com). The simple point of such documentation is to establish a thorough routine of updating all security software and threat definitions, as well as maintaining the hardware platforms where security applications reside. Documenting inspection/update procedures enables continuity and transparency of the approach, regardless of staff absences or turnover. Be sure to include a

#### **Other Tips For Securing Your Server OSes**

- · Use virtual servers for "poor man's compartmentalization" and assign one virtual server to one task, all the while residing on one physical server.
- · Subscribe to a subscription service, such as the Red Hat Network (www.redhat .com), thus automating software and operating system updates.
- · Implement monitoring tools over your servers to monitor server operations.
- Consider managed services if your SME lacks the resources to secure your environment comprehensively.
- · Develop a comprehensive backup and disaster recovery strategy.
- · Implement a defense-in-depth security strategy in your environment.

quarterly review of the document itself, to adjust procedures appropriately based on experience and changes in the business or its environment."

Such security templates are available from a number of Web resources so you don't have to reinvent the wheel. "Data center/IT managers should evaluate these templates, determine which is most appropriate for their environment, and then adapt it to fit their unique needs," says Ewing. And it's OK to keep your security documentation to just the facts your data center

Controlling server access is imperative. Ewing, Gaines, and Karl Wirth, director of security solutions for Red Hat (www.red hat.com), all stress the importance of controlling and periodically reviewing who has access to your SME's servers, including

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#### **Secure The "Human Software" Before The Server**

Securing your server operating system doesn't start at the hardware and OS level. The first steps for securing your small to midsized enterprise's server operating systems call for shoring up your IT management and documenting processes and procedures for the maintenance and security of your servers.

According to John Ewing, network security specialist and CISSP in

CDW's professional services team (www.cdw.com), "The best practices for securing server operating systems-independently of operating system or environment-focus on 'human software.' There are many

security devices and applications that can be highly effective, but all of them depend on conscientious and alert IT management. There is no such thing as 'autopilot' against rapidly evolving security threats."

# 

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# Cooling Down The Data Center

#### A Multithronged Approach Will Get The Job Done

by Bruce Gain

COMPONENT MAKERS continue to develop more energy-efficient processors, power supplies, and other components that allow servers to consume less power and to run cooler. Yet server thermal problems are still not going away anytime soon. Server downtime, data loss, and destroyed components due to overheating are potential nightmares that IT admins will continue to face.

#### **Cool Products**

#### **Atlas Sales & Rentals**

The Classic or Office Pro cooling products can accommodate capacities from 1 to 5 tons and are geared for computer rooms, as well as for offices. Some of the models can offer 18,000 BTUs of cooling power. (510) 713-3313; www.atlassales.com

#### Dynapower USA

The EJ-CF-168 offers 80mm cooling fans with 3,500rpm for heat dissipation; its noise level is 35dBa and voltage rating is 5V/450mA. www.dynapowerusa.com

#### **Nagios**

The Websensor EM01B, which connects directly to an Ethernet network, monitors temperature and relative humidity in server rooms; it can also check battery supply voltages of UPS units.

www.nagios.org

#### **Rackmount Solutions**

Rackmount Solutions offers a temperature and overheating monitor that managers can read either remotely or locally; the system can be mounted separately or built in to a 19-inch rackmount filler panel.

(972) 272-6631; www.rackmountsolutions.net

SMEs also often struggle with stricter cost constraints when it comes to investing in cooling solutions compared to larger companies. Yet SMEs cannot afford not to invest in proper cooling systems to prevent thermal issues from destroying equipment and data, either. The good news is that there are several steps and technologies SMEs can use to prevent data center thermal issues from getting out of control.

"Maintaining a suitable environment for information technologies is arguably the No. 1 problem facing data center and computer room managers today," says Michael Petrino, vice president of PTS Data Center Solutions (www.ptsdcs.com). "Dramatic and unpredictable critical load growth has levied a heavy burden on the cooling infrastructure of these facilities, making intelligent, efficient design crucial to maintaining an always-available data center."

#### **A Cool Environment**

It's a simple concept: Server room temperature control largely involves directing cool and warm air to go where it should. Cool air needs to feed the servers' components while hot air needs to be piped out of the server room. CRAC (computer room air-conditioning) systems should serve as the source of the cool air that is fed into the data center and the hot air that is taken out.

One way to efficiently channel cool air involves the "hot aisle/cold aisle" approach when the flow of cold and hot is alternated between server rows. With this system, cooled air is piped into cold aisles. The servers are positioned so their front air intakes face the cool-air aisles while the backs of the servers, where fans pipe the hot air out, face the hot aisle from which the heated air is eventually piped out of the data center through the CRAC.

For many admins, especially those with several rows of rack servers, hot aisle/cold

aisle systems are a fundamental element of their data center environment. "[Hot aisle/cold aisle layouts] are not only useful, they are essential to the proper and efficient cooling of servers and equipment in data centers, regardless of the data center design," says Jeff Lowenberg, vice president of facilities for The Planet (www.theplanet.com), which offers IT infrastructure services for Web hosting and other applications.

Hot aisle/cold aisle layouts can also accommodate data centers that do not necessarily have the latest cooling systems in place, Petrino says. "[Hot aisle/cold aisle layouts] work with traditional perimeter and row cooling, as well as newer in-row cooling deployments," he says. "This approach also applies in raised-floor and nonraised-floor environments."

But even with an ultra-efficient hot aisle/cold aisle layout in place, precious cool air is often misdirected or wasted. The wasted cool air is known as "bypass airflow" and is a very common data center problem. One way to mitigate the effects of bypass airflow is through the use of blanking panels and sealing cable outlets.

"[Bypass airflow] can be found at every cable penetration through the raised floor that is not properly sealed with a brush-grommet," Petrino says. "Blanking panels offer separation to cause the cold air to remain in the cold aisle and to reduce air mixing."

Directing airflow so that the hottest air is channeled back to the air inlet of the CRAC units does a lot to boost the overall efficiency of a data center's cooling processes, Lowenberg says. "Sealing all areas—really anything and everything—to eliminate bypass airflow ensures all cold air is directed into the cold aisles, which is the only place in the data center it is needed," he adds.

#### The Monitoring Factor

A monitoring system should serve as a key indicator of the efficiency of a data center's airflow and the temperature of the servers' intake and outtake airflow. Lowenberg says his firm measures the air inlet temperature of its servers and adjusts the CRAC units so the air temperature is no colder than necessary.

"The [CRAC unit] settings are vital. In a data center, the most important measurement is the temperature of the air entering the servers, so temperature monitoring and control are essential," Lowenberg says. "If it's too warm, equipment will not function properly, which leads to increased failures and shortens the life expectancy of the

equipment. If it's too cold, our company is wasting money."

Once a system is in place that monitors each row and cabinet cooling zone, it is important to note that server temperatures are by no means static, which makes monitoring an ongoing process. "A given is that once effective cooling performance is established for a particular load profile, it will change rapidly," Petrino says. "It is important to compile trending data for all environmental parameters for the site such that moves, adds, and changes can be executed quickly."

#### **Hunting Dust Bunnies**

Proper data center cleaning by removing particles and contaminants is necessary to prevent a meltdown of server components. Left unchecked, dust particles from the floor and elsewhere will eventually blanket components and trap heat inside servers. The dust buildup clogs outgoing data center filters, which blocks outgoing heat. But you don't want to rely on your building's custodian to clean the server room with a mop and bucket. This is where specialized data center cleaning service providers come into play.

Removing dust and other contaminant buildup does not involve much more than selecting a competent and reliable service provider. It is just a matter of scheduling data center cleaning services by a qualified third party on a regular basis.

Kevin Vickery, president of data center cleaning service provider ProSource Mission Critical Services (www.team-prosource.com), says, "As heat obviously continues to be a major issue, it does tie in to how people should be [using professional services] for data center cleaning, while those who are not yet doing it should be doing it."

#### **Cooling Tips**

- Think about a hot aisle/cold aisle layout as soon as rackmount servers are installed in a data center.
- Mitigate bypass airflow with blanking panels and sealing cable outlets.
- Installing a proper monitoring system is crucial to determine the efficiency and the temperature of the servers' intake and outtake airflow.
- Data centers require professional server room cleaning services at least once a year to prevent components from overheating due to dust and contaminate buildup.

# **Spread & Keep Operational Knowledge**

Continued from Page 23

says. "Be sure to merge (retirees) with operating groups. Engrain them with the rest of the business; don't have them off in a side building or a basement."

Sometimes a program will meet resistance. A worker may feel that documenting his work processes is the first step to easing him out of his job. "You need to be honest right up front," Lanzalotto says. If the purpose of the study is cost-cutting or job-cutting, say

so. However, it is more likely that the company simply wants to document processes. Then, he advises, work with the employee to be sure he has a good comfort level with the project and knows why the company needs the information documented.

Another approach is to let the worker sit in on documentation sessions with another department to help ease the fear factor. "Sometimes it is easy. Sometimes you simply have to say, 'You've got to do it.' But the secret to getting people involved is to show them the burning platform and explain the reasons behind the project," Lanzalotto says.

At most SMEs, management would like the job done yesterday, but that is not a realistic goal. "100% adoption is optimal," says Lanzalotto. "But if year one reaches 60 to 70% adoption, you're rolling."

Buy-in from two-thirds of the workforce and management is critical. "From there,

the more folks you can get involved, the better," Lanzalotto says. The reason for failure of such projects usually is a lack of buy-in by the workers. This traces to poor up-front communications. Other times, a lack of top-level input or follow-up can hurt the project.

Early in the process, an SME should hold meetings daily or at least weekly. Once the basic document is in place, a quarterly review is customary. Later, the SME can stretch that time interval as the review and update process becomes part of the corporate culture.

# **Server OS Security Best Practices**

Continued from Page 25

directory rights, user accounts, guest accounts, file access, and physical access. "Also, don't forget about backup systems and the access to them onsite and offsite," notes Ewing.

Other security management options to explore include rotating passwords and two-factor authentication to your servers, says Wirth. He also points to open-source efforts such as freeipa.org as an effective way to govern access to your small to medium-sized enterprise's Linux servers and overall IT infrastructure.

#### **Clean Your Server**

Run only what you need to run on your server. Wirth advises that you uninstall any services on the server not in use. Another tip Wirth recommends is dedicating one server to one task, meaning each server serves one task and one task only, such as application server or database server, as another method for securing your servers.

#### **Leverage Security Features**

When managers are implementing security features on a server, the process often

requires a balance between usability and security because locking down a server too much can sometimes cause management tasks to go through unnecessary hoops.

Red Hat has been working with the open-source community to innovate on server security. Wirth advises turning on SE (Security Enhanced) Linux to lock down your Red Hat Enterprise Linux server. SE Linux compartmentalizes the server OS, enabling you to write policies to disable/enable access to server operating system features.

#### **Audits, Trust & Segregation Of Duties**

"In a typical small business, the owners have an IT person or vendor they trust and rely on to control the access and maintenance of the systems, but there should still be checks and balances in place to avoid vulnerability, fraud, or abuse of exclusive access," says Ewing.

He adds, "In a smaller business . . . the owners should have external auditors check the systems' security posture periodically. Alternatively, there are also software applications that scan systems and generate reports on their security status, but those also should be installed and accessed only by management or a trusted third party."

### WHAT'S HAPPENING

# **One-Stop Shopping For Electronic Components**

#### Gerber Electronics Excels At Personal Customer Service

by Kurt Marko

It's not often that you run across an IT company in this Web 2.0 era (at least one that doesn't go by its initials) that has been around since the days of tube radios. But Gerber Electronics (781/769-6000; www.ger berelec.com) is such a multigenerational institution. In 1923, former World War I radio operator Nathan Gerber returned home to Massachusetts and began selling tubes, condensers, and similar components for amateur radio aficionados. Over the ensuing decades, his enterprise, Gerber Electronics, grew into a full-line parts distributor, continuing as a family-run business before finally being sold to outside investors in 2003.

Having successfully made the transition from vacuum tubes to microprocessors and fiber-optics, Gerber's longevity is a testament to its customer-centered business practices. Spend a few moments with Director of Sales Tom Fletcher, and it's obvious that Gerber's motto, "Our Greatest Component is Your Satisfaction," is more than just an empty marketing slogan.

Fletcher describes Gerber as a full-line distributor of passive, active, and electromechanical components to OEMs, CMs (contract manufacturers), and other distributors. Based in Norwood, Mass., Gerber has customers worldwide, with a particularly large concentration in the Northeast. Fletcher notes that Gerber's customers range in size from large second- and third-tier OEMs and CMs to small mom-and-pop operations. Manufacturers currently compose about 60%

of Gerber's business, while sales to other distributors and brokers makes up most of the other 40%. It also runs an eBay store for online sales directly to consumers.

Gerber features an extensive supplier line card featuring more than 30 product categories with everything from discrete components, such as integrated circuits, capacitors,

connectors, and fuses, to circuit boards, enclosures, and cabling. Fletcher adds, "We sell everything you need to build an electronic device."

He says Gerber has seen steady growth in all of its product lines but notes that its recent addition of telecom and computer networking components has shown especially strong sales. Fiber-optic products—cables and connectors—have been a particularly hot area, along with coaxial components for broadcast and broadband applications.

#### **Passion For Customer Service**

Given that many of the products large electronics distributors sell are commodities or easily substitutable, pricing tends to be very competitive, so areas of differentiation between suppliers often center on product availability and order execution and delivery. While Fletcher takes pride in Gerber's large product catalog, customer service and efficient order execution are areas where the company places particular emphasis.

He says that its single warehouse and years of logistics experience mean that it can often ship more rapidly than its competitors. He finds that with most of its customers, "It's always about the timeline," adding that Gerber "likes to operate by the customer's standards for delivery. If we have to overnight a shipment, we will." Gerber stocks its entire inventory in a single 100,000-square-foot warehouse that Fletcher says improves its ability to fulfill orders on short notice, including those placed late in the day. He says, "We don't say we'll only ship until 3 p.m."

Fletcher feels that many in the distribution industry have left the personal touch behind,

yet Gerber hasn't abandoned old-fashioned human contact for Web forms and voicemail. "We're passionate about customer service," he says, add-

ing that the company's service philosophy is to "start with the best people and give them the best tools." He makes sure that his salespeople are empowered to do what it takes to satisfy a customer. He notes, "We don't read from a script."

Fletcher relates a common refrain he hears from his regulars that illustrates why Gerber places such emphasis on customer service: "You were a few cents higher, but it was nice to call and actually get someone on the phone."

#### **Web Presence**

Even the most personal and helpful staff is of little use if customers can't find the products they need, so Gerber continues to invest in its Web presence and online catalogs. While it's not the flashiest AJAX-powered application, Gerber's site contains a complete listing of its entire line card and is now integrated with its ordering and billing system to allow online purchasing. Fletcher highlights a new cross-reference feature that

helps buyers find equivalent products from different manufacturers. For example, a customer may be looking for a particular chip from National Semiconductor that's temporarily out of stock; instead of waiting for a back order, the cross-reference function can find compatible components from Fairchild or Harris, for instance.

Gerber's next Web enhancement is the addition of photos for every product it carries. Fletcher notes that sometimes a customer may not know the exact part number for a particular component but knows what it looks like. In this case, having quick access to photos helps customers get exactly what they need without referring to a paper catalog or risking an ordering mistake.

#### Company Growth & Customer Profile

Gerber's extensive, balanced product line and customer focus has led to strong financial growth. According to Fletcher, the company's growth rate is between 25 and 35% this year, after similar double-digit gains last year.

Fletcher feels one of the macro trends in the distribution industry is the abandonment of so-called second- and third-tier OEMs and CMs by giant distributors. These Goliaths, led by Arrow Electronics and Avnet, typically focus only on the largest foreign manufacturers and are too big to pay much attention to anyone smaller than an ASUSTeK, Quanta, or Compal. While this presents an excellent opportunity for Gerber, he finds it ironic because "these [second- and third-tier OEMs and CMs] are not tiny businesses, and there are literally hundreds of them, especially here in New England" that represent an underserved and underappreciated market Gerber is focusing and capitalizing on.

Fletcher is optimistic that Gerber's mix of extensive product line and great customer service portends continued success well into the future. "We didn't hang around for 84 years because we didn't care," he says. With today's cookie-cutter ecommerce sites, Gerber Electronics may seem like an anachronism. However, it just could have the recipe for another 84 years of success.

#### THREE QUESTIONS

# Disaster **Prevention**

# **AVTECH Products Monitor Your Environment & Offer Automatic Corrective Actions**

by Corey Russman

**AVTECH SOFTWARE SPECIALIZES** in hardware and software to monitor computer room and data center environments. The company's Room Alert and TemPageR hardware monitor computer room or data center conditions such as temperature, humidity, power, flood/water, smoke/fire, airflow, room entry, and more. PageR Enterprise software monitors any OS server, device, or event network-wide.

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Michael Sigourney is AVTECH's senior product specialist. As such, he's involved in product design and worldwide distribution, sales, and marketing and serves as an industry evangelist for IT and facilities environment monitoring technologies.

#### What are the biggest IT-related issues facing today's small to midsized enterprise?

Sigourney: Attacks from unseen environment issues continue to plague computer rooms of all sizes, with temperature-related problems remaining the No. 1 cause of IT downtime. For SMEs, this is especially true because their data center is typically in a facility that was never designed for that purpose. This creates a significant risk from basic environment concerns such as temperature, power, humidity, flood, or smoke. Since most organizations cannot make many of the necessary facility changes, it is vital that they understand where they are vulnerable and monitor for any changes in temperature, power, humidity, flooding, smoke, airflow, and more.

Managers call us every day facing a crisis related to one of these conditions. The end result can be devastating to expensive IT equipment and the operation of a business. With smaller rooms, a slight change in the environment can overwhelm the room in less than 10 minutes. For example, if an air conditioner fails, most computer rooms will rise from the standard 68 degrees Fahrenheit to more than 85 degrees in 8.5 minutes. That's a problem because IT equipment

should not be run when room temperatures exceed 85 degrees. And yet, we all do it because shutting down systems is extremely undesirable.

Research shows the average data center experiences environment-related down-time one to three times a year, and managers almost always say the problem struck without warning. The reality is that warning signs are available. Automated monitoring solutions are readily available, easy to use, and extremely cost-effective. Market-leading solutions are available for less than \$1,200 with all the advanced bells and whistles; specialized solutions such as temperature monitoring are available for less than \$300.

To operate without IT environment monitoring in place simply doesn't make sense. You need to protect your IT equipment and organization by implementing an automated solution for environment monitoring, alerting, and automatic corrective action (e.g., server shutdown). You'll likely cost-justify it the first time it alerts you about a pending threat.

# ■ What should *Processor* readers know about your company's products?

**Sigourney:** AVTECH is the leading worldwide manufacturer of IT and facilities

environment monitoring products. We design, build, manufacture, sell, and support our products. Since 1998, more than 86% of all customers who have purchased Room Alert hardware continue to use it and have continued to annually renew their optional maintenance service.

AVTECH continues to expand to meet customer demand worldwide. Our Room Alert products are used in more than 30,000 organizations spanning 104 countries. Room Alert's popularity is based on its ease of use, reliability, advanced software capabilities, and high value. Value is benefit divided by price, and most managers believe Room Alert has the highest value of any similar product.

#### ■ What makes your company unique?

Sigourney: AVTECH is large enough to be a design and manufacturing innovator while still small enough to remember that service and reliability are what customers desire. Real people answer our phones within two rings. We manufacture most of our products in the United States and, if there is a problem, we can have an engineer on the manufacturing floor within 90 minutes. Orders received by 3 p.m. ship the same day, and AVTECH products come with four to six firmware updates annually, unlimited technical support, and a 100% hardware replacement guarantee.





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- Supports PC, Sun, Apple, USB, UNIX, and serial devices
- High quality video up to 1280 x 1024
- Secure encrypted operation with login and access control
- Scaling, scrolling, and auto-size features
- View 4 computer connections using the quad-screen mode



#### UltraConsole™ Remote

#### Access servers & serial devices from anywhere in the world

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- Supports serial devices such as routers, switches, and more
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- Secure encryption operation
- Scaling, scrolling, auto-size and quad screen features
- View 4 computer connections using the quad-screen mode



#### UltraLink™

#### Manage & monitor servers from anywhere in the world

- High-quality video up to 1280 x 1024
- Secure encrypted operation
- Scaling, scrolling, and auto-size features
- Quad screen, real-time viewing of 4 computers
- Compatible with most KVM switches
- Available in single, dual, and quad models

#### PC, Sun, Apple, USB, UNIX, Serial Devices



#### **KVM Switches**



#### UltraMatrix™ X-Series

#### Expandable, multi-user switch for connecting 1,000 computers

- Multi-platform units have serial VT220 terminal emulation
- Advanced visual interface (AVI)
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- Free lifetime upgrade of firmware
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#### UltraView™ Pro

#### Access or Manage 2 to 256 computers from a single KVM station

- Economical
- Easy to use, install, and expand
- Audio and serial support
- Advanced visual interface (AVI) ■ Security features prevent unauthorized access
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#### **Display 4 computers** on a single monitor

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#### Fiber, CATx, DVI/VGA, PS/2 or USB



## **KVM Extenders**



#### **CrystalView**™

#### Extends keyboard, video, mouse, audio and serial up to 1000 ft

- Supports USB, PS/2, or Sun
- Serial and full stereo options
- Available in single, dual, or quad video models
- Supports video resolutions up to 1600 x 1200
- Video tuning and skew adjustments available ■ Dual version allows another KVM near computer



#### CrysrtalView™ Pro

#### Extends keyboard, video, mouse, audio and serial up to 33,000 ft

- Supports DVI video resolutions up to 1920 x 1200
- Supports Fiber or CATx cable
- Supports singlemode or multimode fiber cable
- Supports PS/2 or USB keyboard and mouse
- Supports for local KVM station
- Fully automatic KVM sharing



#### ViewLink™

#### Extends keyboard, video, & mouse up to 1000' over CATx

- Automatic compensation and equalization
- Automated video skew adjustments
- Models available for PS/2, USB or both
- Video resolution up to 1600 x 1200 ■ Compatible with KVM switches
- Operating system independent

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#### RackView™

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- LCD flat panel and keyboard can be sold separately
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#### RackView™ Panel Mount LCD

#### Mounts vertically in a standard 19" rack

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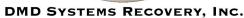
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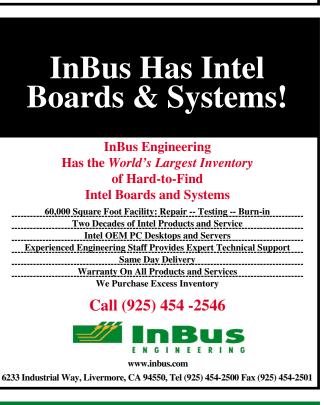




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